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NEWS IN BRIEF

Temporary chairman

TAKING over as chairman of the Post Office for just one year while it is split in two is robotics expert Sir Henry Chilver, vice-chancellor of Cranfield Institute of Technology since 1970. Existing chairman Sir William Harlow leaves on September 11. The two new organisations already have chairmen designated. They are George Jefferson for British Telecom and Ron Dearing for the Pests and Giro operation. At the moment Jefferson and Dearing are also deputy chairmen of the Post Office.

40% more power

THE new ICL 2916, revealed last week, comes with up to 4 megabytes of main memory and in addition to DME/2, supports the latest release of VME/K with fully integrated DMS and TPMS. It offers 40% more power than the 2805.

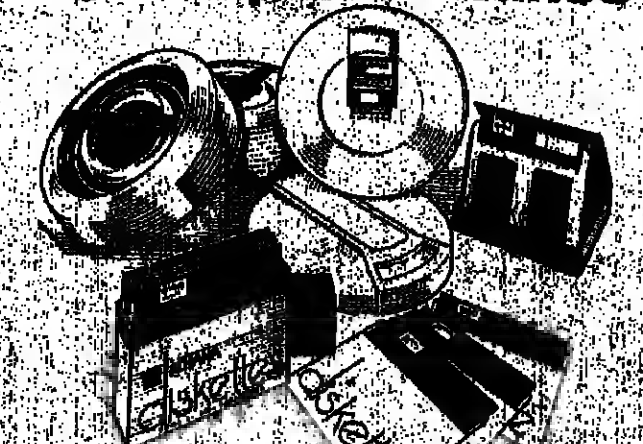
Edinburgh micro

A MICROCOMPUTER teaching laboratory is to be set up at Edinburgh University in October. It will be a VME-based system supplied by a UK agent, Dicot Electronics of Basingstoke, Hants. The system is based on a Digital Equipment LSI-11 and will be used for development and evaluation work and promote the use of UCSD Pascal at the university.

Joining Apple

INTEL Europe's vice-president and general manager, Tom Lawrence, has left the company to join Apple Computer in Cupertino.

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COMPUTER WEEKLY

Coping with the information explosion

IT has been estimated in the US that the average executive is presented with a million words to read every day. At 250 words per minute this would take 60 hours daily to get through!

The problem of how to cope with the information explosion and sift through the deluge of words to find those that are indispensable is becoming increasingly large in the lives of managers and professionals, and it is this that former Logica marketing consultant Jill Johnson is exploring.

Johnson has founded Mind Management Ltd to start research in this area, to get people to think about their own problems of

coping with the flow of information and to get them to decide what it is in it they want and need. She gathers detailed information from her clients about their reading habits. In all the talk about the paperless office of the future, Johnson asserts, there has been little consideration of how executives select what they need from the enormous flow of information that comes to them every day.

She is talking about newspapers, magazines, published reports, internal reports, memos, mail. It is unrealistic to claim, in her view, that a significant fraction of this material will arrive in electronic form in the foreseeable future, despite such ideas

as newspapers on viewdata.

Even if it did, she asks, is it really practicable to absorb this sort of information on a screen? A manager's real flair is in selection, she suggests, and he has to have a very fast way of skimming through large quantities of reading matter to find what is of importance to him. At present he can flip through a newspaper more easily than text on a screen.

The research that psychologists are currently doing into perception and learning is at a much finer level of detail than this, Johnson points out, and is not tackling the broader problem of how one keeps up with developments in one's field.

£1 million backing for Scots 'Nexos'

A JOINT operation by the Scottish Development Agency and two private institutions is to set up a venture in Scotland to manufacture distributed office systems of novel design.

Over £1 million is being invested in the company, Future Technology Systems, which aims to make a range of small business microcomputers which can be linked into a distributed system for data and word processing.

The Scottish Development Agency, the equivalent of the National Enterprise Board in England, is spending £400,000 on the project, while £250,000 each is coming from Scottish Northern Investment Trust and Castle Finance.

The remainder of the money is coming from the firm's three founders, Peter McHugh and David Shear and Professor Martin Henley of University College Cardiff, who is providing the expertise in microelectronics.

The agency has handed over

to the firm a new factory in Bellis, Ayrshire, where work should start in October.

Designing terminals and key-boards of original design. Eventually 140 staff are expected to be employed. First production runs should be in the middle of 1981.

Advanced

Design of the products is already well advanced, with software pecks gears on the stocks for word processing, accounting and sales. Users will be able to program in such standard languages as Basic and Cobol.

The philosophy is that users should be able to start out with a small self-contained machine and then upgrade to a linked system without changing product range. A small central processor will be available for linking the micros and handling central files.

In this sense FTS is aiming

down-market from Nexos, the National Enterprise Board's venture which is designing a large scale electronic office system focused more on text handling than data processing.

On the other hand, in so far as Nexos is also selling stand alone word processors, the two ventures will be competing. FTS expects its customers to be firms with up to about 200 employees.



Just one more tug!

JUST one more tug to make sure it is securely packed and this ICL ME29 computer becomes the first to cross the Atlantic to Canada.

Bound in ICL's own top grade polythene, the machine is going to Standard Tube of Woodstock, Ontario. It is to replace IBM System 3 and System 32 processors.

Most ME29 sales so far are for export and ICL has 300 orders in hand. It hopes to be delivering about 80 a month by Christmas.

Row over US mail electronic plans

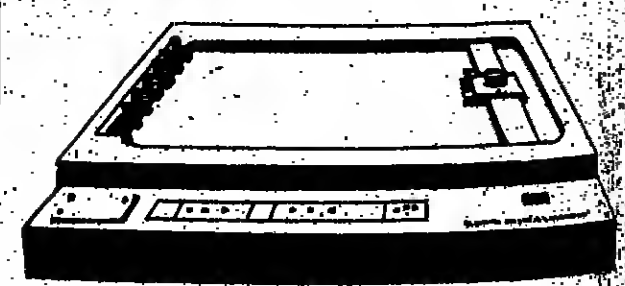
THE US Postal Service's controversial Electronic Computer-Originated Mail service is due to go live in January 1982, despite continuing disagreement with various regulatory agencies over the scope of the service and how much competition will be allowed.

The Postal Rate Commission, which oversees the US Post, has specified that the service should be experimental, with a finishing date of October 1984, and in protest against this the USPS is appealing to a federal court.

Users of ECOM will be organisations that mail large numbers of invoices and the like that are produced by computer (CW March 6). The test will be an electronically sent postcard, near each recipient where a printout will be made which is delivered by hand in the next mails. This saves transporting the printout across country.

Whether it will be open to any communications firm to carry the electronic part of the message, or whether the USPS will have strict control over this, is still in doubt.

The Federal Communications Commission has also been trying to exert control over ECOM, in conflict with the Postal Rate Commission.



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FERRANTI Computer Systems

Number 722 Thursday, September 4, 1980 Price 20p

East Germany catches up with a bit-slice micro

DETAILS of a new bit-slice microprocessor from East Germany strongly indicate that the Comecon countries' microelectronic technology is beginning to catch up with that of the West. A review of the two newest minicomputers from East Germany's Robotron confirms the forecast (CW, June 12) that the U830 chip is an eight bit wide bit-slice micro.

Briefing

'2966' due in October

THE ICL 2966, unofficially dubbed the 2966, is pencilled in for launch in October.

The machine will be ICL's biggest microcoded processor and is expected to offer twice the power of the 2860, up to eight megabytes of main memory for George 3 DME, and could include ICL's time-slice architecture which will allow DME and the VME/B operating system to run simultaneously.

The Federal Communications Commission has also been trying to exert control over ECOM, in conflict with the Postal Rate Commission.

Mini for Monotype

THE new IS 2000 minicomputer, designed and manufactured in Britain, has been adopted by Monotype as the front-end processor for its film-setter computer-controlled typesetting system. Built by Interact of Brixton, the IS 2000 is also the basis of a new business system programmed in Video.

Goal Board plans

THE Goal Board is laying plans to introduce distributed computing into its operations. A number of both ICL and IBM computers will be used to process data from the company's 1100/80 bit-slice mainframe, the technique is to use separate processors for computation and for address.

Turn to back page

NCR adds ADDS

NCR has weighed in with a counter-bid for terminals and small systems, manufacturer Applied Digital Systems, and looks home and dry already, since ADDS directors are recommending the offer to their shareholders.

If the deal does go through it will be NCR's second substantial acquisition since it sold its Applied Papers division to British American Tobacco in 1978. At the beginning of last year, NCR bought communications processor manufacturer Comten of Minneapolis (CW, February 1).

ADDS got itself into the dangerous situation of depending on NCR for over 40% of its business. When NCR terminated a key OEM-ADD contract and started building its successor device to house ADDS' profile suffered, even though the first half of 1980 25% of its business has still been done with NCR.

COMPUTER WEEKLY

FINANCIAL PLANNING

MANAGEMENT - All about the art of planning and controlling the financial resources of a business.

Peter Merrick
ASSOCIATES

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Dol backs real time software training

THE Department of Industry is to support a new training course for engineers in an attempt to relieve the shortage of skilled managers of real time software products.

The course, Real Time Software Project Management, was developed by the National Computing Centre with Cranfield Institute of Technology and Marconi Avionics.

The course is to answer the need identified by Professor J. Merriman, chairman of NCC, for 400 people over the next four years to undertake systems engineering.

The objectives of the course are to give engineers an understanding of the life cycle of software, to help them identify major concerns in the progress of a project and to cope with the necessary documentation and forward planning.



Our picture shows the engineers' panel on the new machine being examined by Chris Davies of Computer Field Maintenance, which has maintained the machine since 1974. The demise of these machines still leaves three KDFs in the field.

System 38 'thrills' UK user

THE first IBM System 38 user in the UK, the Hospital Saving Association, of Lancaster Gate, London, is thrilled at the increased programmer productivity offered by the new machine when compared with the System 31 it is replacing.

The organisation says that RPS III productivity is excellent and it expects to write programs three to four times more quickly. With one day for coding and one day for testing, a business suite of 16 programs has been reduced

to a single online program of 350 lines - and 108 of those are comment.

Hospital Saving Association is a club for National Health Service users, paying out each for things like glasses and dentists' treatment.

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PAGE SIX for programmers and analysts

Experience is Catch-22 for job-seeking TOPS graduates

I FEEL I must write to you in an attempt to prevent other people becoming victims of the same circumstances in which I now find myself.

On January 7 this year I commenced a CDI (Control Data Institute) computer programming course, after giving up a successful teaching career because of a deep desire to work in the computer industry.

At the initial aptitude test and at a subsequent interview I was assured, provided I made a reasonable effort and satisfactorily completed the course, I would have a 98% chance of obtaining employment.

I completed the CDI TOPS course without any problems and in the complete satisfaction of my course tutors. This was nearly three months ago and now, despite 160 letters of application and enquiry to nearly every computer user within a 40-mile radius of my Redditch home, and the little assistance

given by CDI, I find myself unemployed for the first time in my working life.

My excellent educational qualifications, including language degree, faultless work record with my previous employers and high attainment on my CDI course, seem to be of little matter to prospective employers who seem to be far and few between. In fact 50% of my fellow CDI graduates are also still unemployed despite many assurances to the contrary by CDI prior to and during the course.

In conclusion, I feel disillusioned, betrayed and frustrated by the wastage of my efforts, dedication and aptitude, not to mention the waste of government finance in the payment of my costly training. I hope this cautionary account will be taken into consideration both by prospective TOPS students and those responsible for the financing and implementation of these courses.

Redditch Mrs A. M. SMITH

IT WAS with great interest and amusement that I read Allaire's Adventures in Computer Land (Page Six, August 14).

I am 27 and after four years of teaching I decided the time was right to seek new pastures within the wide and wonderful world of DP.

My decision was not arrived at overnight and after long conversations with both friends in the industry and my local PER I had to go at the IBM aptitude test for the TOPS course in systems analysis run by KBS in Leeds.

I was successful and accepted for a course which started in October 1979, and after a gruelling but enjoyable 22 weeks finished in March of this year. However, from there on the going got considerably more sticky.

After a barrage of letters and telephone calls in search of employment I got an interview with a major American manufacturer. They interviewed me three times (two formal, one informal

over a pint in the pub). They then took up references and sent me for a medical. Although still looking around and not counting my chickens I reckoned I had this one sewn up.

About five weeks later I received a phone call saying my application could be taken no further as my references were not satisfactory; even though I had personally contacted my given references in advance and been assured of good testimonials.

Well, to date I have applied for 96 jobs and received three interviews. I was rejected at one and am awaiting the outcome of the other two. I have tried every type of approach from humility to out-and-out cheek.

I realise that I am not the only person in this predicament, but perhaps one of your readers can suggest a way of overcoming the Catch-22 situation of experience necessary to gain experience.

ALISTAIR J. S. MACDONALD, Bradford

Why are they not wanted?

TOPS courses, and obviously if a firm can say that it has successfully trained 100 or so programmers this year it will be well below the 98% quoted for last year, and placement of TOPS students is becoming increasingly difficult.

Although we mentioned two weeks ago on this page that many programming schools are not what they seem, we must point out to any prospective TOPS programmer that a company does not necessarily have to be a good one to qualify for TOPS support.

Companies do not agree to train programmers via the TOPS scheme out of the goodness of their heart. They receive a grant from the government if they run

taking its course. And if it tries to tell you that you will, take it with a pinch of salt.

Interviews

Gatting a job is a difficult business these days for anyone. There is no short cut. After finishing a TOPS course, you will have some basic skills and some acquaintance with computer systems. You will not have any qualification as a programmer, only the ability to become a trainee programmer — quite a different kettle of fish.

To be fair, you will not have been selected purely as a result of your performance in aptitude tests. Interviews also count, be-

cause no matter how good you are at mental arithmetic or anything else, if you don't come across well in an interview before you take the course, the chances are that you won't when you've finished it either.

Companies operating under this TOPS scheme usually take this into account and avoid taking on "unemployables" as such as if they were interviewing them for a job within their own company.

Most TOPS programming courses are the same. Some companies offer a choice of programming languages, or teach by different methods, for example by self-help techniques rather than classroom methods. Basically, however, the con-

tent is the same. Students usually learn Cobol and write a suite of five programs ranging from a print program to a simple payroll or something like that.

You will find, however, that the methods of teaching programming these days have not varied very much for the past five years.

Still unsuitable

This means that when you have completed the course and get a job, an employer may well find you unsuitable to do the kind of work he requires.

The employer might employ programming methods with which you are as unfamiliar as you were before you even thought of taking a TOPS course.

This seems to be one of the main reasons for the reluctance of employers to take on TOPS graduates. But it is by no means the only one. The general recession and the fact that people in general need a speedy solution to their staff shortage also contribute.

The training bodies are also a little to blame. If a company is going to train people as programmers, whether financed by the MSC or by private employers, why not go the whole way and give them the real treatment? That means teaching them the latest techniques and actually finding out what sort of basic training employers need and want.

Stick it out

And that leaves you. Unfortunately, if you are already in the situation described by our correspondents there's nothing for it but to stick it out, keep applying and don't lose heart.

After hearing the sorry tale of so many TOPS programmers, Page Six would welcome any comment from employers who can tell them, and us, why they are not wanted.

CONFERENCE Symposium on micro opportunities

A symposium on Microcomputer Applications and Opportunities in the Building Services Industry is to be held on September 24 in London, organised by the Institution of Mechanical Engineers and the Institution of Electrical Engineers. The conference is intended for those in electrical engineering, building services, and environmental control who are involved in the design and development of microcomputer-based systems for building services.

The International Conference on Data Processing in Building Services is being held on October 14-15 in London, organised by the Institution of Mechanical Engineers and the Institution of Electrical Engineers. The conference is intended for those in electrical engineering, building services, and environmental control who are involved in the design and development of microcomputer-based systems for building services.

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SOFTWARE FILE

'Too sophisticated' DL/I is dropped in favour of Total

by Claire Gooding

USING DL/I we needed a systems programmer who knew exactly what it was all about. We do not have one now." This comment highlights a difficulty faced by installations which, tied by investment in existing systems, try to fit their needs into the IBM software mould.

It was made by John Richardson, manager of a project at Luton engineering firm, Hayward Tyler, which found IBM's database management system too sophisticated and complex for its needs and dropped the product after months of planning, to replace it with Cincin's Total, which was up and running in matter of weeks.

Planning

The project team, whose first task for the database was a purchase order system, had difficulty matching the complex requirements of DL/I's structure.

"I needed long term detailed planning," said Richardson. "You had to be sure that the needs as currently stated would stay the same for the next 10 years or so — and that's impossible."

Although IBM gave all the help they could, morale on the team fell as the project dragged on, and people began to leave. The final blow in the attempt to implement the database came with a plant run of DL/I. The mere loading of it slowed down the response time of the system from the customary two seconds to six or seven.

"All our schedules went out of the window,"

explained Richardson. "It chewed up half a megabyte insignificantly — it felt as though we'd got the anchor out all the time."

"All we really wanted was an online database," he continued, "and DL/I was obviously too complex for our needs. We were using perhaps only 10% of its ability."

The problems in implementing DL/I and the loss of DBOMP maintenance prompted the firm to look away from IBM products and consider others.

Total, a database system which has been around since the late Sixties and is implemented on a large range of large and small machines, met the needs of the purchasing system and looked as if it could cope with further developments.

Hayward Tyler needs to look to the future, and although Total costs £12,000 a year, it matched data requirements and will enable the firm to drop DBOMP within a few months, as well as adapting to the planned upgrade to IBM 4331 in the future.

It also took only six weeks to get up and running, with programming ahead of schedule.

Interactive packs for micro systems

A PAIR of interactive business packages for payroll and administration of sales, purchases, invoicing, reporting and other daily tasks for the small business is being launched by Marston Software, which specialises in micro-computer applications. It is designed for simplicity, giving the operator guidance and validating data as it is entered. Written in structured Cobol, the packages are for Z80-based processors including Cromemco, TRS-80, North Star Horizon and Superbrain.

The payroll costs £300, and the "integrated business system" £1,000.

The packages will be aimed at the small business user of first but Horizon director M. Shoflone said: "We are considering moving with them into the mainstream market."

Nixdorf's challenge to IBM's DOS/VS

HAVING taken on IBM at the lower end of the plug compatible market (CW, June 12) Nixdorf is entering the battle armed to the teeth with two new software products and three updates. With the purchase of the Computer Software Co of Virginia, Nixdorf has acquired enhanced versions of IBM's DOS operating system and a software products arm, now called NCSC.

It is now making a bid to attract customers to its NCSC database, its data dictionary and other alternatives to IBM products.

Nixdorf's flagship is EDOS/VS, the DOS/VS look-alike operating system for IBM 360, 370, 4380 and PCMC mainframes. According to Nixdorf, EDOS/VS contains many features only recently announced for DOS/VS, and has others which are available only to OS/VS1 and MVS users.

Alternative

Nixdorf says there is no retaining involved in moving from a DOS to an EDOS environment and claims that EDOS can be an alternative to expensive software and hardware upgrades by getting the most out of the current system.

The latest version provides increased I/O processing speed with priority channel scheduling. Release 1.2 also includes enhanced 370/158 support, and 4380-11 disc support. Improved operational navigation and backup check validation and SAM support for 330-11 users.

Standard features of EDOS already include 12-partition support, real storage management and extended operator console support. The EDOS procedures library permits complete education of jobs and up to 10 levels of nesting.

Support

The system also supports OS partitioned data set management, data set management, system, multi-processor updates, multiple partition, or even multiple CPUs become possible with Nixdorf.

Three MicroFocus products in OEM deal

SIS CORP., The April 1974 National Office of the High Technology Development for Computers and Microcomputers, has announced an OEM deal with MicroFocus.

The third product, Forms 2, is a development tool for use with Cobol which helps the user create screens and programs. The software will be available to Intel users worldwide, and according to an Intel spokesman, will provide an even broader scope of utilisation for Intel OEM users.

AEG Telefunken, part owners of Modcomp, recently bought a 10% stake in Intel (CW, July 31).

The sixth Nixdorf user conference was the launching pad for the Extended Procedure Language for use with EDOS/VS. It is said to allow extensive control of operations scheduling and is billed as a "true language", featuring arithmetic expression as logical expressions and character string processing.

Also launched was a CICS variant of the data entry control system, DEX, running under CICS Standard or CICS/VS telecommunication system.

DEX-CICS is said to provide management control, comprehensive editing facilities and complete data integrity. Nixdorf also claims that an hour of training will suffice for non-technical staff in using the product as it uses a fill-in-the-blanks structure with commands in English.

Updated

Updated versions of three other products for the EDOS market were also released; the data dictionary, the database, and the extended console system ECON.

The NCSC database has been made faster and now makes the database more easily available to the user. Changes in the utility programs are said to improve management control, and the generalised multi-thread interface provides simple access through most teleprocessing monitors and batch inquiry systems.

Release 2.0 of ECON provides support for any combination of 1052, 3210, 3318 and 3270 type devices. It can also cope with magnetic ink character recognition, and provides a timeout feature and other operation controls.

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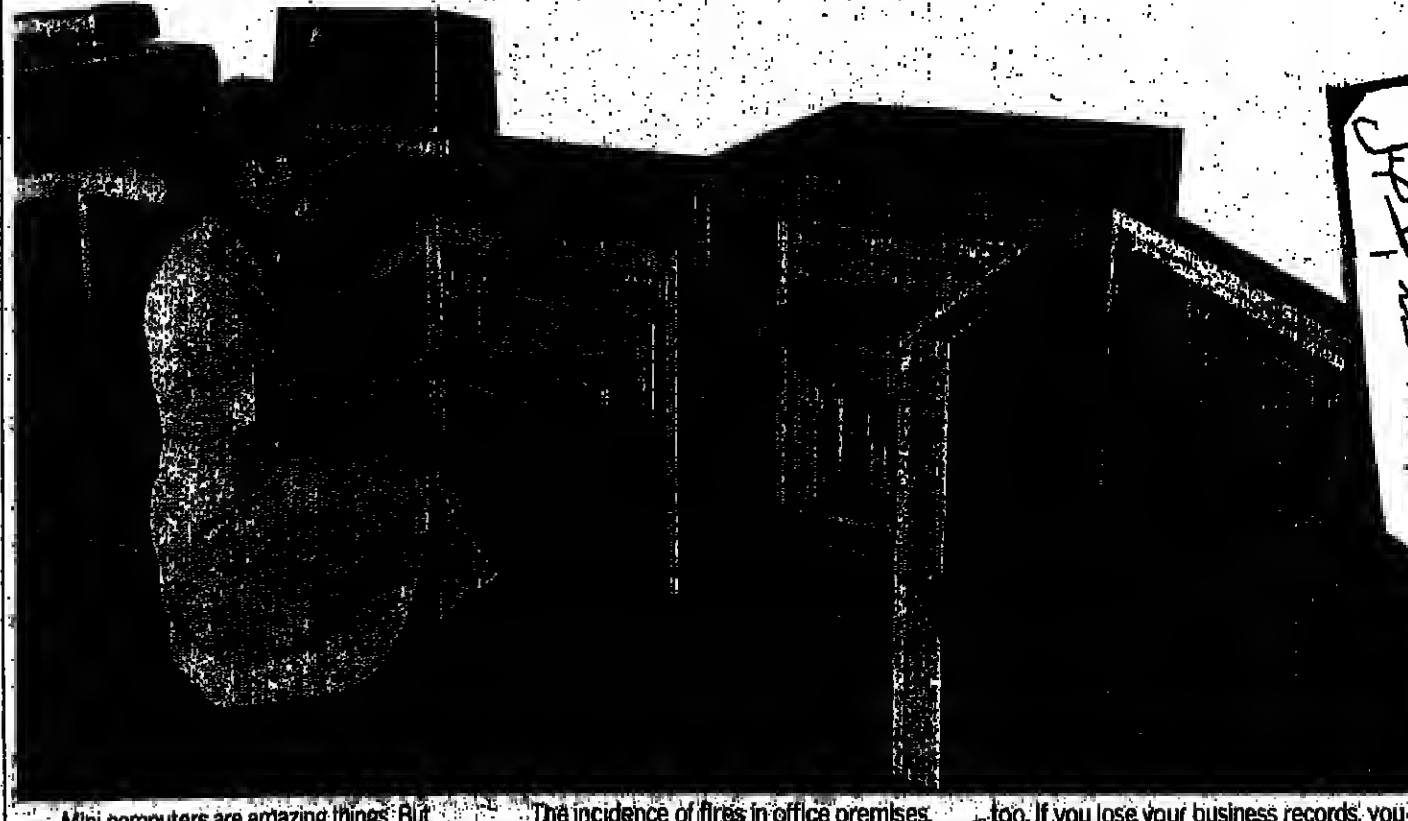
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FOCUS

IF the Post Office thought it could avoid the slings and arrows of outrageous criticism merely by changing names, then it has got the wrong line. British Telecom is now on the receiving end of computer industry stork.

A further nudge was given last month by Dr Roger Carrage of Bullard Corp. Speaking to the Service 800 International telephone organisation, he suggested that the recent liberalisation of the PTTs could be taken as an admission of defeat.

International PTTs are all apparently in a tumbledown state and much in need of a facelift.

This facelift will need to be more than the change of corporate colour from yellow to blue. While lifting the face of the PTTs is a fascinating thought, especially where British Telecom is concerned, wholesale improvement in PTT service could be a tough task for the DP teams.

For many years, the PTT has

Lifting the face of the PO

acted as a convenient safety net for the computer operation. That wrongly coded data could be blamed on poor transmission lines. The inefficient terminal is the fault of the PO-supplied modem. Those logs VDU response times can be assigned to an asynchronous communication.

Additional computing facilities can be secured by suggesting that while the DP team could handle the project, the PTT could not. Or, if the PTT is to be involved, it must be in a position to handle the project.

Meanwhile, the suggestion will be placed in the PTT's pending tray until the PTT supply and

connection position becomes clearer.

For the DP team, however, too much knocking of the PTT is not a recommended policy in the long term. Computers are increasingly interfacing with telecommunications — whether it is linking East and West India Dock Roads, or Baker Street with Hong Kong. Even the recent 50% leased line increases will not attempt the demand.

In fact, keeping pace with telecommunications requires more than a set of international directories. Lifting the PTT telecom installation boat could well leave the DP installation high

and dry. Companies, computers and telecommunications are closely linked in real time, both in-house and remote. That PO explanation has failed to keep pace with worldwide demand is probably the major factor behind the decision to free certain Post Office monopolies. When seemingly the whole business world suddenly demands to join the electronic office club, or be connected up with videodata, Prestel and Teletext, it is hardly surprising that telecom resources become stretched.

It seems rather strange that the DP industry is not switching on some practical telecom courses, seminars and workshops.

Gatting it strips with telecommunications is a vital necessity for the DP professional. Otherwise the UK computer world could be left getting the time-pipe or extended engaged tones.

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MICRO NEWS

by Eileen Stainer



Tandy backtracks with Model III

TANDY'S pocket computer slipped by several beady eyes before a distinct similarity to an equivalent Sharp product was noticed. The company has now admitted that its pocket computer is basically the same device as Sharp's PC121.

The Japanese company has agreed to manufacture its product with multiloop facilities for Tandy, in market with its own TRS-80 label. According to Ted Russell, an ex-director now buyer for Tandy UK, it was not worth the company's while to design and manufacture such a product itself.

Model III. Tandy's line-up is now in the order of Model I, Model III, and Model II at the top. The TRS-80 Model III will be available in three versions; one with 4K of RAM; one with 16K; and a desk-top version with 32K expandable to 48K. Each version will be in one unit with a 65-key keyboard, a 12-inch video monitor and a power supply. Model III is also housed in one unit with a minimum internal memory of 32K-bytes expandable to 64K.

For £299 the 4K version of Model III is programmable in Tandy's Level I Basic and can be used with all Model I, Level I programs. The 16K version costs about £399 and is programmed in the Model III Basic which includes upper and lower case letters.

The desk-top business computer version has two double-density 40-track disc drives which add another 313K-bytes of storage to the 32K-expandable to 48K of RAM. Facilities are available to add two more disc drives to bring the storage

capacity up to 626K-bytes. A built-in RS 232C serial interface, this version will cost about £1,000.

As the company has claimed the Model III is cheaper than Model II which is selling at about £2,500, and has storage capacity, Model II drive up to three 8-inch floppy discs, providing 2 megabytes storage, and its 32K RAM is expandable to 64K.

Storage

Model III Basic is a version of the Level III Basic used on Model II, but is upward compatible with Level I Basic on the Model I.

However, it seems that Model II is closer to the future than the Model III. The latter has 32K-bytes of user RAM on floppy discs providing 2 megabytes or 3 megabytes storage. Model II provides megabytes of disc storage, while the Model III supplies up to 626K-bytes on disc.

Filling a gap

However, Tandy emphasises that its other two new TRS-80 products, the Model III and the colour computer, are US designed and manufactured. Only the former will be available in the UK and that will not be until June next year. The Model III is on a level with the SuperPet, claims Tandy.

In fact Tandy seems to be filling a gap in its marketing direction with the Model III. After the introduction of the Model I, which was developed mainly for the hobbyist, came the Model II advanced business system which, says Tandy, is comparable with the Apple III. That left a hole in the market for a desk-top general purpose microcomputer system, the

Intel prices drop by 40%

PRICES of Intel Magnetics' bubble-memory subsystem components and boards have been reduced by more than 40%. Further similar reductions for quantity orders will take effect in August 1981 and 1982.

Intel will be able to shift large quantities of the devices this way, although the company does not give this as one of its reasons for making the reductions. It regards the price cuts as a sign that the technology is becoming increasingly popular in the commercial field, and attributes them to better productivity.

The 100-piece price of the BPK72 prototype kit which

comprises a one-megabit bubble memory module and six LSI support chips drops 42% immediately to £1,100. For OEM applications the ISBC250 board drops 26%.

In August 1981, Intel plans that orders of 5,000 or more BPK72s will be priced down 40%. The year after, quantities of 25,000 will be reduced another 50% from the 1981 prices.

Even with these reductions, bubble memories will still cost more than their mass storage alternatives like battery-backed RAM and floppy discs.

Nevertheless, the technology is solid state and has high capacity.

LX500 with double memory

AN enhanced version of the Logabex LX 500 Z80-based microcomputer has been announced in the UK. Main memory is doubled to 64K-bytes, and the larger version incorporates double-density minifloppies for a total backing store of 384K-bytes.

With a VDU and printer, as shown here, the new version costs £2,500, and the first UK sale has been made to the Severn and Trent Water Authority, which wants it for a pilot budgetary control, forecasting and customer complaints system.

16.8 million colour shades are impossible to show in a pretty coloured ad.

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Available from Dicoll, AED's new full colour graphics system is more than just a term. It's a complete high resolution colour imaging system under microprocessor control with DMA interface available for most popular microcomputers.

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The AED 512 Colour Graphics from Dicoll.

Also available from Dicoll is the Trunk Monochrome Graphics System and VDU Graphics Interface from DEC.



Nixdorf's LX 3000.

Multi-function translator

NIXDORF's pocket translator, the LX 3000, available in the UK from Phone-Aids in Hampshire, can perform a variety of extra functions for nominal additions to the basic cost of £115 plus VAT.

Apart from translating into 11 languages other than English, including Arabic, for £32 plus VAT per module, the terminal can communicate over the telephone to a computer.

Semis in Brighton

THIS year's Semiconductor International exposition will be held at the Metropole Convention Centre, Brighton, on November 25-27. Technical sessions will cover packaging and defect monitoring, very large scale integrated circuits, automatic test equipment, reliability, processing, electro-optics, photo-imaging and lithography and alternatives to microprocessors.

When used with an RS232C interface for £125 plus VAT, an acoustic coupler, an RS232C, complicated program can be accessed, data can be checked, orders can be placed, as in our picture software can be named and modified.

For an extra £22 plus VAT, a terminal can be used as a VDU; for an extra £86 plus VAT, as a full system; and for an extra £80 as an electronic notepad.

Supporting dealers

VICE-PRESIDENT and manager of AEA's European operation, Tom Lawrence, previously held Europe position with Intel, giving the company's European dealers and customers the full and up-to-date information.

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PEOPLE and EVENTS

ICL opens Belfast headquarters complex

A HEADQUARTERS complex for Northern Ireland was officially opened by the chairman of ICL, Philip Chappell, and the Lord Mayor of Belfast, Alderman John Carson.

Located at Computer House, Hollywood Road in Belfast, it will cater for the ICL customer base in Northern Ireland. ICL has been in Ulster for almost 50 years, having moved from Castlereagh.

A large representative group of industrialists from across the Province was present at the opening.

New director for Logica

Brian Martin has joined the board of Logica as director, responsible for the management group. His career has involved international experience in economics, transportation and management control, and in 1968 he founded a transport consultancy.

Martin worked for the London Transport Board and then as a research engineer at MIT, studying computer based techniques for forecasting travel demand in urban areas. He was also involved in Project MAC, the world's first time sharing project.

For five years he was chief engineer, transportation, for the Greater London Council and then in 1969 founded Martin Voorhees Associates. In 1978 he became international vice-president of Alan M Voorhees Inc, co-ordinating the company's activities throughout the world.

Prize for a unique program

A CONTEST was sponsored by AFIPS during the 1980 Personal Computing Festival, when personal computing enthusiasts were asked to design unique non-commercial hardware and software applications. The winner was Tintacop Amornvithachai, who selected his prize a Houston Instruments Plot DMP-2 digital plotter.

Amornvithachai's winning entry was a program for translating Oriental Thai into English.

Lucky number

Cashpoint, the Lloyd's Bank computer-linked cash dispenser system, now has 1.5 million cards in issue. Katherine Jones, a nursing assistant from Northampton, applied for the 1.5 millionth card and was presented with a watch, a leather wallet for her card and a Lloyd's Bank trophy.

George Snelgrove has been appointed by Rediffon Computers as London Regional manager. He joined the company in 1974, and from 1978 worked as Northern Regional manager. Rediffon has also appointed a product marketing manager, Mike Burdett, promoted from his position as branch manager for the South East.



A COMPUTER terminals company has agreed to sponsor Lancashire Brass, a registered brass band from Chorley, Lancashire. Blackburn-based Terminal Display Systems has provided the band with uniforms which will give the band "an important psychological boost" according to ten Cuthbertson, Lancashire Brass chairman.

Prince to present Girl Technician Award

Prince Charles is to present the Girl Technician Award of the Year Award, at a ceremony to be held later this year. The award is a cheque for £250 and an inscribed rose bowl. The award started in 1978 and generally attracts around 20 women. The IETEE has a membership in the region of 10,000, of which only 15 are women.

The closing date for nominations for the award is October 1 and those interested should contact the IETEE secretary at 2 Savoy Hill, London WC2R 0BS.

Roy Armetrong has been promoted to company training manager at Computer Technology, CTL. He joined the customer service division as project manager in 1978.

John Milway has been appointed UK sales manager for the commercial systems division of Computer Automation's UK operation. He was formerly Southern Region sales manager for the same division.

Chris Rigler is national sales and marketing manager for Unistat Computers. He was previously divisional marketing manager at Data Logic.

The BBC has appointed Alan Lafferty to be manager of engineering promotions. Lafferty joined the BBC in 1971. In 1978 he became engineer in the liaison section, engineering information department.

Several appointments have been made by ITT Business Systems' Sales HQ District (Brighton). David Reid takes over as executive manager. Tom Jarvis is market development manager. Peter Jackson is product marketing manager. Carl Spurr is national sales manager for ITT's loud speech equipment. Keith Goodman is national sales manager for the company's facsimile products.

X-Data has appointed James Coupland, formerly with Hawke-Cramer as printer product specialist, and Brian Mateall, formerly with KPG, as sales executive.

Cambridge graduate John Youmans has joined the systems research team at Uniwic Nexos. He was previously consultant engineer with Communications Studies and Planning Ltd.

Howard Turnridge has joined Versatec Electronics as a senior engineer. He spent the last eight years with Honeywell.

John Cahill has been appointed director of marketing programs for General Automation. He was previously systems marketing manager for Xerox's office product division in Dallas. He will be based in Anaheim, California.

New technologies for information retrieval, BCS Information Retrieval Group, London.

Seminar: Digital communications for satellites. Technology Transfer Society (TTS), London. (01) 242 4045.

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Consultancy partnership

A CONSULTANCY partnership has been formed by two UK information and database specialists, Dr Tony Kent and Derek Barlow. The consultancy is called Kent-Barlow Information Associates (KBIA).

Barlow has been director of the Institution of Electrical Engineers' Inspect database service for the past ten years. Dr Kent has led the Chemical Society's major involvement in the capture, storage and retrieval of chemical information since 1968.

Barlow said that information is "... rapidly becoming a resource and a commodity that can be traded internationally".

KBIA is in Theobald Road, West London.

Bank promotions

The Royal Bank of Scotland has made several promotions within its head office, electronic data processing division. Norman Irvine, formerly controller, systems development, has been appointed assistant general manager. W. S. Lindsay, formerly manager, computer operations, has been appointed controller production services. J. S. Rafferty, formerly manager, planning and research, is controller, systems planning. James Macmillan, who was previously manager, systems, is now controller, systems development.

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Poole de Lobe

Verity Cattarsch Pookman has joined the public relations team at Computer Services where she has been in charge of the public relations department.

Barry de Lobe has been appointed engineering director of house Star Computers. He has been with Star since 1979 and before spent seven years with Amn Systems.

Mark Armitage has joined the computer Automation CSD as a consultant. He was formerly manager of M and S Computer Services.

Hane Visser has been appointed general manager by Documenta for their operations in Holland. He was formerly with Honeywell.

Barrie Jeffray has joined TDS Graphics as sales manager for Scotland and the North of England. He has worked as a salesman in the computer field for 20 years, for companies such as Wordplex, Com Data and Autotrol.

Jim Hoare has joined Documenta UK as a sales executive within the Southern Region team. He was previously national accounts sales executive with Olivetti.

Tony Connor has joined Diagram as systems analyst to the services division. He was formerly data processing expert for Trafalgar Travel.

Mike Loftus is territory sales with Computer Machinery Company responsible for sales in the south, southern Greater Manchester and West Lancashire. He was previously with Delasec.

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Systime unlocks the power of a VAX
Systime is the powerful Systime TP system that gives your VAX far greater processing power, security, high level system management and rapid system development. Ask Systime about Systime and remember if bundled it would cost you even less!

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OP SPOT

Managing a small, personal set-up

RIGHTLY or wrongly, fairly or unfairly, operations staff often criticise their DP manager for failing to understand their needs and problems.

They say he's on his own and detached. They might see him for an appraisal from time to time, or get the occasional nod when they pass on the stairs. But, all in all, operator and DP manager just don't seem to have much in common.

Such a description hardly applies to Robin Weldon — the DP manager at Eastbourne Waterworks is neither detached nor aloof.

Conscientious

"We're a small set-up. I've got an operations supervisor who has been with the company for many years and is a great help to me."

"My day starts at 8.30 in the morning when my first job is to see the operations supervisor. I tell her what should be given priority and she tells me about the other work that's on."

The site has three programmers and two female operators who work days only. Main work is billing, a batch application which runs on an NCR Century 75 system.

"Both of my operators are

girls and that has advantages and disadvantages. On the one hand, lady operators are very conscientious, while on the other they are very reluctant to work at night."

Night work

"The mostor file has details of about 90,000 users and a lot of updating is involved. You'd be surprised how much property gets sold and how many people move home in an area like this."

Water rate bills are sent to users every six months, a task requiring 70 hours of machine time spread over three days.

"It's not a lot of work, but it's a lot of night work. I'm one of my operators, did it on one occasion and vowed 'Never again'. She was a bit frightened because this building makes a lot of strange noises at night."

Fortunately his three programmers have no qualms about working nights and so every six months they turn their hands to operating the system.

"They're very useful operators and they do a very good job for me," said Weldon.

In November or December the site will replace its NCR Century 75 with an NCR Criterion-V-8555M, running under the VRX operating system.

"The new machine will drastically speed up our throughput. At present input is via paper tape and cassette, but on the new machine we will have cassette only."

"All our existing programs will run on the new system and we won't have to carry out any conversion. We expect to phase out the old machine three months after the new one is installed."

"The operators will get accustomed to the new machine by means of a course and practical, hands-on training."

"The programmers are going on a VRX migration course which will be held in London. They operate the machine while the operators attend a course in London."

Asked if the company would carry out online updating on the new system, Weldon responded with some interesting comments.

Strong views

"I'm not a great advocate of online updating. A lot of DP managers at the small to medium-size installation want the latest in software just for the sake of it and not because they really need it."

"Anyway, we're not a bank or on airline and so we don't need that sort of system. Online updating calls for very good software if it is to be safe."

Weldon also has very strong views about salesmen, particularly those of stationery and printer ribbons.

He said, "They come into reception and expect to see you at once. I insist on appointments when dealing with salesmen and the like. It's the only way."

Wide experience

"I've been in DP for 21 years and one of the things I've learnt is that at the smaller installation you have to know what is the best and buy it. Quality is cheaper in the long run."

The site orders stationery and other accessories from such "old and established" firms as Smith and Ouzman, and Tullis Neal.

"Their salesmen are good and they aren't at you all the time. If something isn't up to scratch



Robin Weldon says that Eastbourne is a fine place to work and raise children. The picture shows Eastbourne pier in the background.

they'll take it back. That's very important."

Weldon's wide experience of the industry includes nine months working at American Express in New York.

That was 12 years ago when he was involved in a feasibility study carried out with a view to bringing programs and systems back to run in this country.

"I learnt quite a lot over there, but quite honestly I don't think

much of the Americans or the way they work."

"They talk a lot of puff and don't seem to get much done. There were too many meetings — they love their meetings. The British DP professional is far superior to his American counterpart."

"Not very keen on the city of New York, he went on, "You would need nerve of steel to live there. My sister has been

over there for 18 years — she's a nurse and she's got to be in the streets at night."

"The subway is a bit of a shock — it's a bit worse still at night."

A family man — a girls and a boy — a swimmer, and a keen player. "I think I keep fit and I play half an hour's squash."

Hectic but enjoyable

VARIETY, interest and being kept busy — these are some of the reasons why Kim Tomlinson (left) enjoys working in a small and informal operations department.

The junior operator at Eastbourne Waterworks, Kim said that things are a "bit hectic at times", but that she would have it no other way.

A former VDU operator at the site, she commented, "I work from eight till five and there's no shift work involved. The time passes really quickly here because I always seem to have something to do."

"I fetch all my own

stationery from the shop and usually take the bus to work and fill it up at the end of the day. The bus is a bit heavy, but you get used to it after a couple of months."

On the application of the installation, she said, "Applications include analysis, stores and payroll first thing every morning."

"We input by paper cassette. Cassettes are in the machine and you just load the reader and leave it. We get a lot of party errors with tape."



Contract workers should speak up for themselves

"We don't deal with contract operators, simply because they tend to be rather unreliable. It's not uncommon for the contract operator to start a three-month contract and not turn up after the first day."

"Programmers, on the other hand, are reliable. In the vast majority of cases they will honour their contracts."

Comments from the director of a computer staff agency after I had asked why his particular agency deals in programmers and systems analysts and doesn't bother with contract operators.

He went on to give instances of staff going along to sites and leaving in anger without ever mounting a tape or disc.

"After spending a morning at a site, one character had the manager tell the operations manager that the place was a shambles and that his operators didn't have a clue about running the machine."

"The contractor walked out saying that he would find a site more worthy of his skills. He was annoyed because the site operators wouldn't let him run the system console."

My immediate response was

to defend the contract operator, and vigorously, too. I said that he puts up with all sorts of difficulties in travelling from site to site.

The contract operator, I pointed out, often has to put up with inadequate documentation and permanent staff who are sometimes hostile because he earns more than they do.

Criticism

The agency man just wouldn't have it. He insisted that the contract operator is paid to do the job required by the installation. If he's late, he's late. If he's absent, he's absent. If he's doing a bad job, he's doing a bad job. That's what he should do.

There was a time when I would get quite annoyed when operations staff, whether permanent or contract, were criticised by operations and DP management and other members of the computer industry.

I still believe most of the criticism to be unfair, but now I take the view that operations staff bring it on themselves to a certain extent by not speaking up when the opportunity presents itself.

This column is the only one in the computer world where operations staff can speak up for themselves. Your letters and comments are welcome. Please send them to the editor, Computer Weekly, 100, The Quadrant, London W1 1AA.

by Bernard Allen

Million bit credit card a possibility

CREDIT cards storing over a million bits of data in a secure, non-erasable form could become a reality following the development of laser technology and a recording material for such storage by a small California company, Drexler Technology, makers of materials for optical

panels of plastic on which a banking terminal or the like could write large quantities of information by laser.

Once recorded, data cannot be erased from the card, unlike magnetic cards, but because of its large capacity it could be continually updated for a long time. Thus it would be useful as a bank passbook or a security pass.

Data is recorded in a metal and plastic material known as Drexlon, the same as the company supplies to a range of companies that are all developing optical disc storage systems.

A piece of Drexlon measuring 1 1/2 in is held in the middle of a card with a transparent plastic cover over it.

Each bit is recorded by a laser melting a very small hole in the plastic, and according to Jerry Drexler, the company's founder and president, a panel that size can hold "easily" one million bits.

Interest

No terminal yet exists for use with the optical card, as Drexler does not build such equipment, but over a dozen firms have shown interest in working co-operatively to develop the necessary hardware, he says.

In addition to its permanency and far greater capacity, the optical card is much more durable than a magnetic one on which there can be no protective coating on the stripe, Drexler says.

The cost would be under 50 cents a card, he estimates. Naked-eye-readable information can also be recorded by making large patterns in addition to the binary data.

Audit trail

The fact that all previous information would remain on the card after it was updated would, for banking applications, provide a useful audit trail, Drexler says.

For security passes and identity cards, revalidation could take place as often as desired, he says. A card eventually filled up it would be thrown away.

Start of five-year plan for aeronautical network

SEVERAL message switching systems have been ordered by various national agencies involved in the worldwide AFTN Aeronautical Fixed Telecommunications Network used to pass information such as flight plans, aircraft positions and weather reports between air traffic control centres.

ITT Business Systems has already supplied a system capable of handling several thousand messages a day to the West German Defence Supplies Board in Koblenz.

Based on twin General Automation 18/440 minis, the system is valued at £1,200,000 and is the tenth ITT has supplied for use in an aeronautical network of a total of about 160 systems.

Cable and Wireless is to supply a message switching system based on Digital Equipment PDP-11s to the Department of

Civil Aviation in Jordan in operation early next year.

And Philips Telecommunications Industrie of Holland is to supply a system to the Swedish Civil Aviation Authority, based on its Aerop II equipment, in a main office at Arlanda International Airport, near Stockholm, with Aerop 20 switching sub-centres in Malmö, Gothenburg and Sundsvall.

Interfaced

The Swedish system will be interfaced to the World Meteorological Organisation's global network, as well as to the Nordic Public Data Network and the public telex network.

Over the next five years it is also planned to develop the system to operate as a node in the medium to high speed data network planned by the International Civil Aviation Organisation.

Burroughs extends its CP 5000 line upwards

THE new Burroughs CP 5000 line of communications processors has been extended upwards with two new models, the CP 8558 and the CP 8572, joining the existing CP 8550, launched at the beginning of the year (CW, January 24).

The models are similar in architecture to the B920, launched in the US two weeks ago (CW, August 28).

Main memory expands to 1.5 megabytes on the larger of the two new models, and 1.2 megabytes on the smaller, compared with 640K-bytes on the B950.

As with the B920, the basic system for each consists of a system control processor, a file processor (that is, an intelligent disc controller), an instruction or applications processor and a communications processor.

Up to four more processors can be added to the B9572 and up to two more to the B9558, and

both can support up to 12 communication lines.

Communication modes supported include X25 packet-switching, IBM SNA/SDLC, BSC and BSC/SDLC, as well as Burroughs' own BNA/BDLC.

A typical CP 8558 with half a megabyte of main memory, two floppy drives, 18 megabytes on disc and four lines would cost \$39,184. A typical B972 with 817K-bytes of main memory, six megabytes on floppy and 77 megabytes on hard disc would cost \$65,000.

Help with circuit design

A NETWORK of four computers is to be installed at Smiths Industries to assist with integrated circuit design and testing. The master processor, a Systems 32/77 computer, will be supplied by BTL Computers, the Sutton-based subsidiary of Systems Engineering Laboratories, in a £100,000 contract.

Systems 32/77 has 32-bit parallel operation and uses a high speed synchronous bus at 28 megabytes per second. The three support computers are expected to be 16 bit stand alone systems.

Key-to-disc boost for PAYE centres

WHILE the government agonises about what approach to take in the computerisation of PAYE records, the two Inland Revenue computer centres in Scotland and Yorkshire that have for some time been handling PAYE remittance processing are to be equipped with additional key-to-disc equipment from their existing supplier, Rediffon Computers.

Rediffon is to supply two of its Keycheck systems to the centre at Cumberland and three in Shipleigh, Yorks.

Both centres have ICL 2000s operating in batch mode, processing PAYE payments from employers. They do not maintain and update individuals' PAYE records which is the aim of the current much publicised Inland Revenue project.

Rediffon's main competitor, CMC, is supplying its Sovereign key-to-disc kit to the other big Inland Revenue computer centre at East Kilbride in Scotland. Ten years ago it was the first and only centre to go live under the original scheme for putting PAYE records on to computers.

Killed

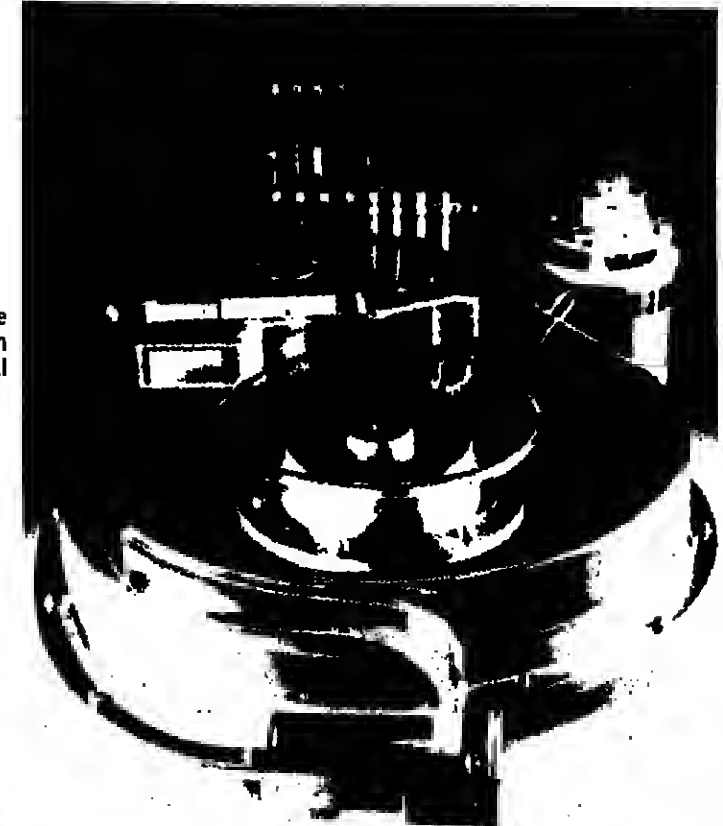
The scheme was killed by the Heath government. It would have involved about a dozen batch systems whereas the current plan calls for the online interactive updating and interrogation of PAYE records.

A few weeks ago the government decided to look again at the approach to be taken and froze the plans to implement a network linking 12 big regional centres.

Firnberg to speak on information processing

DAVID FIRNBERG, managing director of Urwick Nexon, will speak on the importance of information processing to senior management, and David Cox, systems manager of W. H. Smith, will explain how his company implemented a cost-effective and reliable data network, at the first of a series of six seminars on Managing Communications to be held at the Carlton Tower Hotel, London on Thursday, September 18.

The second seminar in the series, being organised by Mills & Allen with Communications Studies and Planning, is to follow on November 26 with speakers including British Telecom's managing director Peter Beaton, and director of business systems, Alex Reid. The four remaining seminars are planned for the first half of next year on themes including communicating money and network planning. The fee for each is £126.50, with a 20 per cent discount for the second and subsequent delegates, or for those attending all six seminars.



The OEM division of Burroughs has launched a series of 14-inch Winchester type hard disc drives and a sample is pictured here. Called FD210 series, the drives are available in 20-megabyte (FD211) and 60-megabyte (FD214) capacities. They are interfaced compatible with Burroughs' MD122 6-megabyte dual floppy disc drive, and, like the MD122, have a micro controller to perform many of the tasks normally done by the host system.

General Robotics signs up Wilkes as UK agent

GENERAL ROBOTICS, the US company that is selling its former UK distributor, Karlin Computer Systems (CW, August 21), has appointed Wilkes Computing of Bristol as the new firm to sell its Digital Equipment LSI-11 based systems in the UK.

The two main General Robotics systems to be sold by Wilkes are Gemini, which comes with floppy disc storage, and Super Gemini which provides a 10-megabyte Winchester disc drive.

Tony Blagwood, general manager of Wilkes Computing, told Computer Weekly that Wilkes would be selling a comprehensive package of commercial software with the General Robotics hardware. The package covers order entry, stock control and accounting and is based on software from the

US firm, Mini Computer Business Applications of Los Angeles.

Blagwood said that Wilkes had produced an "Anglicised" version of the US software which it had already sold to more than 200 DEC users in the UK.

On the question of field service for the General Robotics hardware Blagwood said that Wilkes would be appointing a third party maintenance firm.

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Choosing a computer is a question of philosophy

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BOOKS

Penetrating the mystique of financial planning

Financial planning for managers, by A. H. Taylor and R. E. Palmer, 253pp, £1.75 plus 20% post and packaging. Pan Books (CW), Cavaye Place, London, SW10 9PG.

draw up forward plans.

Hence the need for a book which tells the average boss how to do this.

Targets

The book covers profit targets, forward planning, sales forecasting, production budgets, business capacity, price control, capital budgeting, information needs and cost control.

While it does not specifically dwell on the problems that face DP management, it does provide an objective and practical approach in each subject covered with worked examples.

For just under £2, many questions facing managers and would-be managers can be answered.

But with money costing 10% to borrow on a concessionary rate, it is becoming more important for all managers not only to be able to understand accounts but also to be able to

CHRIS YOUETT

Health and safety at work

Health and safety — the law, by James Jackson, 236pp, £1.50. Industrial Relations Group (CW), 346 Harrow Road, London, W9 7JL. Tel: 01-289 1159.

THIS edition has been updated to take account of the Health and Safety at Work Act which, among other things, created the Health and Safety Executive. There is a general rule of Common Law that an employer has a duty to provide a safe place of work and, with the right of trade unions to appoint in-house safety representatives, no employer can afford to be ignorant of current legislation.

This book spells out in simple terms the current state of play.

Micro revolution coming—but when?

The Micro Revolution, by Peter Large, 222 pages, £1.50. Fontana Books (CW), 14 St James's Place, London, SW1A 1PS. Tel: 01-493 7070.

The Micro Revolution, by Peter Large, 227 pages, £1.50. Futura Publications Ltd (CW), 110 Warner Road, London, SE5 8HQ. Tel: 01-737 2431.

IT HAS taken the general publishing world some time to catch up with the micro chip. Now, as if to make amends, two identically titled and priced paperback books have been released. Similarities do not stop at this point. Both books are written by computer journalists and both forecast that the "micro revolution" will change all our lives.

Peter Large is technology correspondent of The Guardian and his book is written with

much journalistic flair. It is highly topical with references which jog one's memory back seemingly to a month or so ago. Only the cost is a jolt, but this probably is part of the UK price revolution.

First class

Large certainly has a first class information retrieval system. There are industry quotes, facts and figures to back every point and argument presented in the book.

So profuse are the quotes, that the author's own views tend to get submerged in a welter of comments from such figures and organisations as Isaac Asimov, Tony Benn, MP, David Pirbright, George Penney, The BCS, NCC, Unluc and the British Frisland Society.

Computer Weekly naturally does not escape attention having forecast in a Delphi Poll that, by 1985, comprehensive information on all citizens will be held in a central, national databank and that by 1989, the average working week will have been cut to 20 hours. Except possibly for the national database installation team and vendors of add-on storage memory systems.

While the Peter Large micro revolution is heavily involved in the impact of the chip on the social, economic and futurology advances, Peter Large's version resembles more a basic primer on micro chip technology.

Despite the heavy technical

content — the author is a book is written in a relaxed style and makes Algol, Fortran, BASIC and ROMs seem entertaining. The subtitle to the book is change for the better or worse. Readers may well remain uncertain after completing the book. But at least they will be better informed.

On the brink

To a large extent, progress of chip technology has been super-hype with the world as a result, assembling the bricks of a micro takeover.

But for all prospects of doom and gloom, the book should be compulsory reading. The micro may well be a threat but, as the Large book suggests, opportunities are also being created.

Unfortunately neither book includes DP personnel in its opportunity stakes. According to Large, first to go will be the operator as increasingly more take over the control of the machine. Next for the micro-chip will be the managers followed by programmers. Systems analysts apart, prospects for DP are bleak.

No firm date however has been set for the arrival of the micro revolution and, given the current sales trends of the frame systems, maybe we don't have to worry — at least this year.

ALAN SIMPSON

Designing systems to help workers and boost productivity

Computer systems in work design — the Ethics method, by End Mumford and Mary Weir, 314pp, £12.50. Associated Business Press (CW), 107 Fleet Street, EC4A 3AB.

THE best attribute of this book is the detailed case studies: three realistic system design problems are given for use in the classroom along with sample answers for each of the design stages.

The Ethics method stands for "Effective Technical and Human Implementation of Computer Systems" and the book could be of use to trade unionists interested in computerisation, management interested in productivity and worker satisfaction and DP training departments.

Impressed

The most important feature of this book is that it gives the reader the opportunity to focus on a critical problem area: how in practice to design systems which are better for the workforce and which arguably lead to higher productivity and lower staff turnover.

It was particularly impressed by the systematic approach to systems analysis and new systems design approaches such as determining multiple goals and constraints in a formal manner, exploring alternative systems, and the Ethics method.

The book has chapters on the Ethics method, job satisfaction, and the Ethics method for

diagnosing needs and designing work systems, and three chapters on case studies.

It is rounded off with conclusions on the practical applications of the Ethics method, notes for teaching the material under a variety of circumstances and some 150 references and an index.

On a critical note, I have liked to see the book as a more measurable (and so judged) in a less technical manner. But this level of design work system, and three chapters on case studies.

The examples illustrate a high-level strategic design process, there is nothing indicating that more formal methods cannot be used to work out the design, once participative design has been chosen, the most acceptable strategy.

Catalogue

FROM Data Display presents a 20-page catalogue describing its range of LCD displays and the terms and conditions of sale. The catalogue gives details of the firm's work of domestic and international salesmen and distributors.

Data Display Products (CW), 100 North One Street, London, W1P 0AA. Tel: (01-219) 874 6040.

Firm hopes to market new printer technology

KCR Technology Inc, a young company in East Hartford, Connecticut, hopes soon to market a non-impact dot processing printer system which it claims is more versatile than either impact or other non-impact dot processing printers. It uses a brand new printing technology.

But KCR president Richard J. Coburn, says the company needs additional financing before it will be ready to market the product.

The KCR 1000 uses a cathode ray tube which has a series of very fine conductors protruding from its surface. A dielectric ball makes contact with these con-

ductors, which deposit electrical charges on the belt that corresponds with the image to be printed. The activated area of the belt then travels through a tank containing charged ink particles in a liquid medium. These bits of ink are attracted to the charged area of the belt, forming visible characters. The ink is then transferred to the paper, which is, in turn, cut and stacked.

The system can print up to one page per second and is designed for use with a 19.2 kilobaud communications link. It has, in addition to its printer assembly, an operator's terminal and a tape transport system.

KCR uses a Digital Equipment Corporation PDP-11 minicomputer to control the tape transport, which encodes magnetic tape generated by the user's main computer and prepares the data in the desired format. The KCR 1000 feeds paper from a roll, prints the data on the paper, cuts the paper to length and then stacks it.

KCR was founded in 1977 and went public in August 1979. It now has 10 full-time employees and 10 part-timers.

Coburn says that the system fills a gap between very fast and expensive printers, like the IBM 3800 laser printer, and slower and less expensive impact

printers such as the IBM 1403 and its successors. The KCR 1000 is smaller and cheaper than the 3800, and faster than the impact printers.

"The problem with the 3800 is that it's so fast, and gobbles up so much data, that there's no way to operate it remotely unless you have great communications capability, better than what AT&T can offer. You need special data links; you won't with our system."

"The KCR 1000 is a lot smaller, a lot more versatile," he adds, "but still fast enough for most needs."

NEWS IN BRIEF

Conference on PO changes

ATWO-DAY conference on the effects of the government's proposed changes to the 1969 Post Office Act is to be held on September 29 and 30 at the Cumberland Hotel, London by the Chorleywood-based subsidiary of the US consultancy the Yankee Group.

Called British Telecommunications — Translation and the User, the conference is to be followed up by a quarterly report starting in October called European Technology Update.

MCM deal in UK

AN agreement has been reached between MCM Computers of Canada and British Leyland Systems for the UK distributorship of all MCM's API-based systems. BLSL plans to establish a dealer network to sell to non-BL customers throughout the UK, and to develop the machine for hybrid mainframe/micro time sharing systems and standalone applications.

\$22m printer deal

DATAPRODUCTS has won a \$22 million OEM contract to supply line, band and drum printers to Southern Systems of Ford Lauderdale, Florida. The Florida firm will incorporate the Dataproducts units in its printer subsystems for end users.

Comments please

THE US Federal Communications Commission has invited public comment on its proposal to require American Telephone and Telegraph to analyse its costs in three main groups of long distance services — called calls, flat rate arrangements and leased lines — so as to be able to prevent it from subsidising cut-rate competitive services from overpriced monopoly services.

Instant sales

INSTANT counter sales and 48-hour mail order deliveries of peripherals are available from Visual Mer-Com Systems of Croydon. Products stocked include 8 and 5 1/4 inch floppy discs, cassette tapes and data wheels for use in Puma and Diablo printers.

Main dealer

THE Byte Shop Computerland has been appointed main dealer for the SGS-ATES Microcomputer. Based on the Z80, the system was developed for educational and training use.

Plate brochure

A BROCHURE describing Control Data's Plug computer-based education system and how it will be made available in the UK can be obtained from Control Data Ltd, 179/180, Shaftsbury Avenue, London, WC2A 2AR. Tel: 01-240 3400.

'Unfair'

ADAPSO has been complaining that banks are competing unfairly against its members by cross-subsidising DP services from banking operations, and bundling banking and DP services together. A settlement was reached with Citibank two years ago (CW, September 21, 1978) by which the banking and DP businesses would be operated under "maximum separation" and with different names.

Then Citibank decided its time sharing service would be called "Citibank", which ADAPSO regarded as in effect using the bank's name and giving the service that identification in the eyes of the public.

Citibank was "playing a game", in the words of ADAPSO vice-president Jerry Dreyer, and as a consequence the group broke off negotiations and reactivated its law suit.

The Federal Reserve Board (which controls holding banks) and the Controller of the Currency (who regulates commercial banks) are both due to hold hearings on whether the bank is breaching the Bank Acts.

Citibank insists that its computing activities are all part of

Fujitsu's JEF success in China

FUJITSU'S Japanese language Extended Feature, JEF, has scored its first sales success in China. JEF is a software package which enables Fujitsu's computers to be programmed in Chinese characters and is equally applicable in countries like Korea, Taiwan, Hong Kong and the People's Republic of China as it is in Japan itself.

The order, for an M-140F, approximately equivalent to an IBM 4331 Model Group Two, comes from the China Ocean Shipping Co of Peking.

The order was landed by a consortium of Japanese companies, which also included Mitsubishi, the Mitsubishi joint venture company MOM, and leading Japanese shipper Nippon Yusen Kaisha. The computer system is to be used for administrative applications including personnel management and payroll and freight management.

French report calls for more government control of information

THE milestone report produced for the French government by Simon Nora and Alain Minc, The Computerisation of Society, is now available in an English translation.

The report was commissioned by President Giscard d'Estaing personally, and the lack of interest shown by other Western governments in considering information policy in general means that the Nora report provides an interesting perspective on these problems.

Big changes

Norm and Minc's central thesis is that an enormous change will be wrought on the structure of society by the huge volumes of information made available by convergence of computing and communications technology. Shifts in power structures and major cultural conflicts are envisaged, and existing political systems may cease to work.

There will be particular conflicts between social classes that

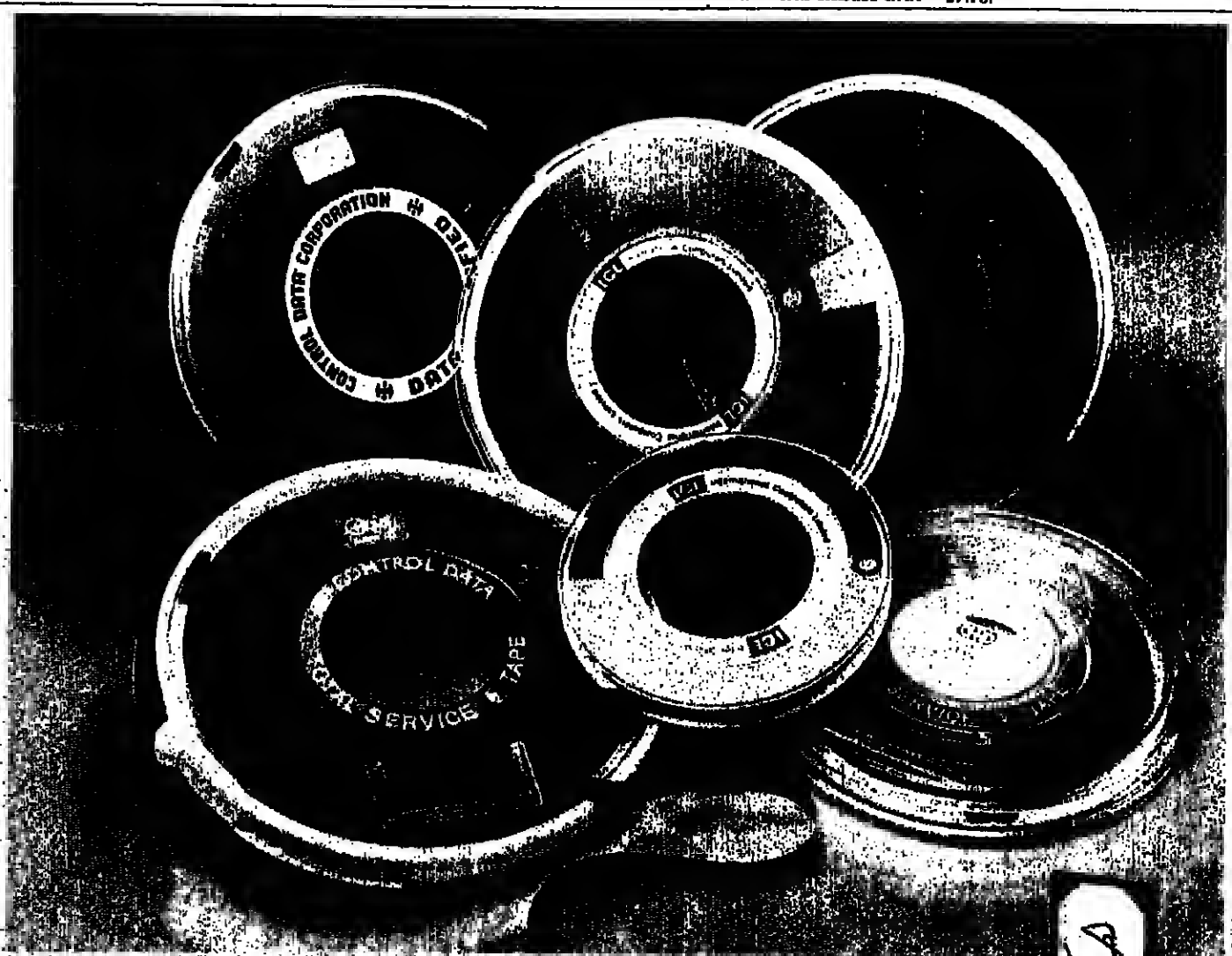
have different abilities to access information, the authors say.

The main recommendation that leads from this is that information needs to be "socialised", that is, controlled and managed by the government even more than it is now.

A sizeable part of the report is concerned with international power conflicts, especially the domination of the data processing business by US companies, and the information supply business by US databanks. Continued government action is urged in these areas.

Two courses of action needed to be taken to implement the recommendations, Nora said when the report was published two years ago.

One was the rapid establishment of permanent agencies to apply the new policies, and the other, the setting up of study groups to investigate further. "The Computerisation of Society, by Simon Nora and Alain Minc, Massachusetts Institute of Technology Press, £7.75.



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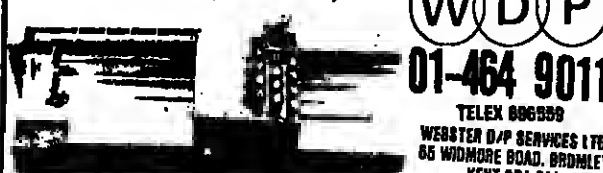
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Just in time

PRODUCT NEWS

Emulator package for online jobs

FROM Datapoint comes an emulator software package that permits an operator to perform online and distributed processing functions on the same terminal.

The package allows Datapoint 3870 Datastations to function as IBM 3277 Model 2 display stations and Datapoint 3801 datastations. It is called EM 3270.

The emulator is an object program that is loaded down line into the 3870 Datastation by a Datapoint 1571 distributed processor.

The Datapoint processor acts as a 3271 Model control unit and forms the interface between the mainframe and up to 10 3870s acting as 3277 display stations. Datapoint says the 3870s are also connected to its time sharing system and this means that both online and distributed

processing can be executed. The emulator supports communications line speeds up to 9,600 baud and the Datastation is available in either 115 or 230 volts (50 to 60 Hz) models.

Datapoint says that in a typical configuration, up to 16 3870s can be connected to the mainframe via a Datapoint 1571

distributed processor acting as a cluster controller. Datapoint 3870 (four port) and 3871 (eight port) EIA hubs form the interface between the controller and the 3870s.

Ventek Ltd (CW), Station House, Harrow Road, Wembley, HA9 6ER. Tel: 01-803 6261.

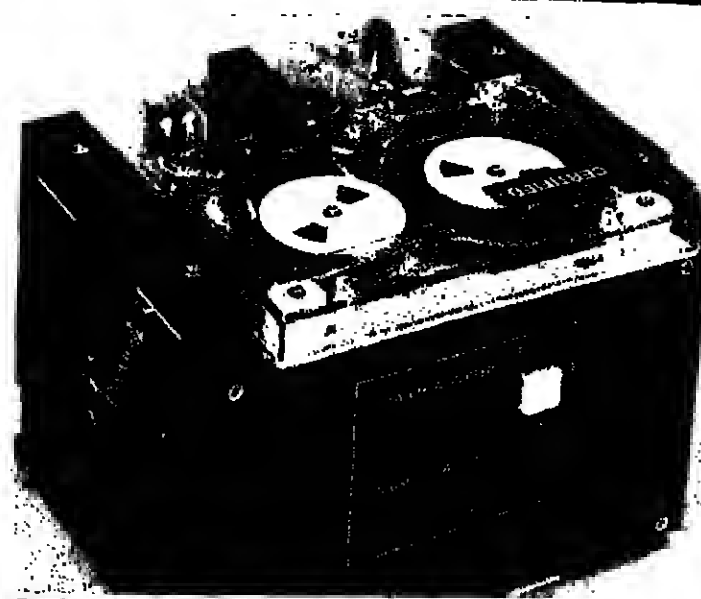
Hardware development module

A HARDWARE development module for the 16-bit Z8000 microprocessor is now being supplied by SGS-ATES. Called the Z8000 DM, it complements the Z8000 SDP software development package.

It has 16K-words of RAM, expandable to 32K also 2K-words of EPROM, expandable to 8K.

The clock rate can be set to 2.5 MHz or 4 MHz by changing board links. For input/output there are 32 parallel lines and two RS 232C serial I/O ports. A wirewrap area is provided on the board. It costs £1,125 + VAT.

SGS-ATES (CW), Walton Street, Aylesbury, Buckinghamshire. Tel: 0296 5877.



Feedback Data's TCD330 cartridge deck.

Pack for linking two remote PDP-11 systems

A SOFTWARE pack that will establish a communications link between two remote Digital Equipment PDP-11 computers has been launched by Xoren Computing.

Called IPL-11, the pack enables any types of files to be transferred over a telephone line or other communications channel and incorporates CRC error checking according to CCITT recommendation V41, says Xoren.

Data transmission is asynchronous via DEC standard terminal interface cards such as DL11, DZ11 and DM11. Each computer appears to the other as a remote terminal.

Xoren says that for installations with more than one terminal, the only additional hardware normally required at each computer is a modem or acoustic coupler which can be connected to a terminal interface card in place of one of the terminals. Transmission speeds of up to 9,600 baud can be selected by the operator.

The package occupies about 6 kilowords of memory and runs under a number of DEC operating systems. The license fee for the basic version of the IPL-11 package running under RSX-11M is £480 per computer.

A demonstration is available on Xoren's in-house PDP-11 machine in London at the address below.

Xoren Computing Ltd (CW), 28 Maddox Street, London, W1K 9PF. Tel: 01-629 5832.

Single card plug-in bubble memory board for TM990

A SINGLE card plug-in bubble memory board called the TM990/210, that provides up to 69K-bytes of non-volatile storage for systems using the Texas Instruments TM990 series is available from Celdis.

The maximum storage capacity of the board approaches that of a single density mini floppy disc.

The TM990/210 uses the TIB02023 92K-bit bubble memory devices which have been shown to exhibit a failure rate of 0.0001% per 1,000 hours at 50°C and at a 20% level.

The board above a transfer rate of 4 milliseconds per byte and a page mode.

The TM990/210 has capacities of 25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, 400, 425, 450, 475, 500, 525, 550, 575, 600, 625, 650, 675, 700, 725, 750, 775, 800, 825, 850, 875, 900, 925, 950, 975, 1,000 bytes.

Prices start from £1,000 for 25K and £2,000 for 1,000K. Tel: 0723 90144.

Called the ADC 0601/2/3 and 4, 'Naked-8' from National Semiconductor, the devices allow operation directly on the 8080A control bus.

'Naked-8' converters can be interfaced to other microprocessor systems including the Z80 and 8080 series. The voltage reference input can be adjusted to allow the full 8 bits of resolution to be applied to the analogue input voltage.

Feedback OEM version TCD330

THE TCD330 cartridge deck for DC300 type tape was developed to meet the back Data's own requirements in cartridge tape systems now available on the market.

It is based on the microprocessor which says it is using to design systems to match the existing circuits. The back Data is offering a deck with a standard tape interface.

It also meets the ISO standards, says the company, and incorporates a locking mechanism mounted in either the horizontal or vertical planes. As a control panel is also available.

Prices range from one-off orders to 100 orders.

Feedback Data Ltd (CW), Lane, Uxbridge, TW8 1PL. Tel: 0825 4222.

Facit punch to Zip range

DATA Dynamics has its Facit 4070 paper tape reader (ASR) terminal which can be plugged straight into a standard RS 232C milliamper interface available.

Data Dynamics Ltd (CW), Data House, Springfield, Hayes, Middlesex, TW6 9TH. Tel: 0781.

Print wheels

A RANGE of 86-character print wheels in 10 styles has been launched by International Systems Applications. Additional selection of 94-maternal print wheels available for European and Scandinavian languages.

ISA (CW), 48-49, Road, Bradford, West Yorkshire. Tel: 0274 40007.

Hard copy unit for VDUs

VIDEO terminals with "video out" can now be connected directly to the Tektronix 4832 hard copy unit which also offers improved copying of non-interfered signals from sources such as the Digital Equipment VT105 terminal.

Connected via the RS170 interface, each raster line of graphic or alphanumeric information is expanded to enable copias to be produced in seconds, says Tektronix.

The 4832 can also provide copies of gray scale information with five discernible levels as standard and up to 11 optionally and can be used for medical applications. A multiplexer is also available to share the copier between up to four video terminals.

Tektronix UK Ltd (CW), PO Box 89, Harpenden, Herts. Tel: 0627 63141.

Battery backup

A BATTERY backup unit on a single board that is said to maintain power to the central processor unit and memory of a Data General Eclipse during a power failure, has been launched by the firm.

It is designed for Eclipse E/280, C/360 and M/600 systems and a report from the US says the backup unit will support the computer for two minutes.

The unit is 7 x 27 inches and weighs 81 pounds. It mounts in the chassis next to the CPU and is wired into the CPU's bus bars. It is air cooled and requires no separate AC power.

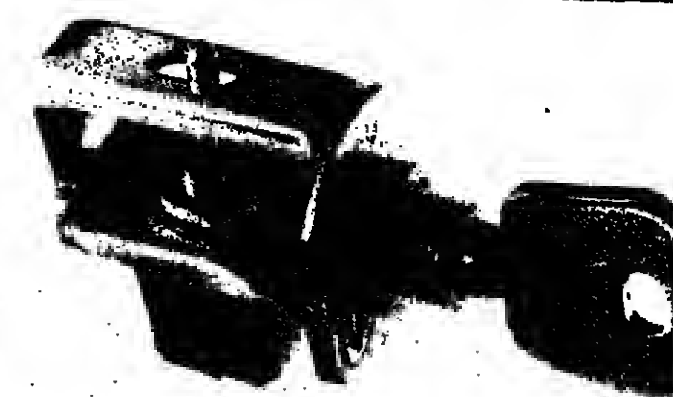
Data General Corp (CW), 724-734 London Road, Hounslow, London, TW3 1PD. Tel: 01-672 1466.

A free leaflet is available and

Addressable I/O board

AN ADDRESSABLE input/output board that will accept up to 16 OPTO-22 input/output modules is available from Rapid Recall. Called the Pamux, the board is designed to interface a microcomputer to industrial plant machinery.

Rapid Recall features on-board mechanical switches, allowing each board to have an individually selectable address. This enables up to 64 boards to be multiplexed to a single microcom-



The CNK key operated switch for low to medium security applications. It is available from P. Caro & Associates.

Security switches are key operated

A RANGE of key operated switches, called the CNK series, available from P. Caro & Associates of Birmingham, are intended for low to medium security applications wherever circuitry interlocks or isolation are required.

The operating key is removable in all positions to prevent accidental or inadvertent operation.

The switch units comprise a plated steel support frame to which can be mounted a one, two or three pole toggle switch. The key is nickel plated brass and a chrome plated knurled nut is provided for clamping.

A 1/4-inch diameter hole is required for mounting, says the firm, and can be drilled on a panel up to 1/4-inch thick. An anti-rotation peg should also be provided to ensure mounting stability.

Overall dimensions, including operating key in position, are 2.255 x 1.378 x 0.76 inches.

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Sprocket-driven guillotine

THE Rowe 306 is a sprocket-driven guillotine which can cut computer print out into forms between 4 and 12 inches deep. It has adjustable margin trimmers and can be fitted with three centre cutting blades. The perforation in the stationary can be removed by strip cutting.

Performance varies between 2,000 and 6,000 forms per hour. The Rowe 406 is a sprocket-driven decollator that can separate

up to 4-part continuous computer stationery. Operating speed is variable from 0.2 to 1.3 metres per second and up to 600 fold positions can be accommodated. The 406 can also be fitted with margin trimmers.

The guillotine costs £2,795 and the decollator is priced at £1,795.

Alaris (CW), Iyechb Ave, North Circular Road, London, NW10 7JJ. Tel: 01-462 6311.

Automated call answering

AN AUTOMATED call answering facility, the InterTel DA 300, has been approved for use over Post Office lines and can be used with Data Logic's internal range of modems.

The DA 300 is available as a plug-in option on a board and operates in conjunction with an internal modem including those operating at 1,200 and 2,400 bps.

Prices start at £2,400 for the DA 300 and £1,400 for the internal modem. Tel: 01-462 7555.

The DA 300 mounts into and draws power from any InterTel stand alone modem enclosure for remote operations, or the 8RA option rack for central site operation. It measures 13.9 x 3.1 inches. Prices start at £200 per unit.

Data Logic (CW), 40 Marley Lane, London, NW11. Tel: 01-462 7555.

Eight channel data comms board

FROM National Semiconductor is a data communications board that can provide up to eight independently programmable RS 232C compatible channels for communications on board level computers.

Designated BLC-8538, the board is based on the 2651 USART and a four channel version, BLC-8534, is also available, says Natsemi.

Under user control, each channel can have either asynchronous or synchronous transmission, has 16 software programmable baud rates up to 19,200 bits per second or external inputs, and can have special transmission functions such as SYNC insertion or SYNC search for synchronous communications.

Natsemi adds that each channel can have two maskable interrupts (one input and one output), double buffering for full duplex transmission and individual parity error detection.

The system's CPU communication with the board is via standard Intel 8080A and 8085 memory reference and input/output commands.

Natsemi also has available the interface hardware to connect the communications boards to the outside world in either a Natsemi RMC chassis or a Retma cabinet.

For an RMC chassis, the BLC-8958 4-port connector boards and the RMC-A001 back panel replacement (which holds one or two BLC-8958s) provide the 28-pin RS 232C interface. The BLC-8958-I and the AEE-001 provide interfaces for the Retma cabinet.

The communications boards are multibus compatible and are guaranteed for one year. National Semiconductor (UK) Ltd (CW), 301 Harpur Centre, Horna Lane, Bedford. Tel: 0234 47147.

Call priority unit needs no PO connections

A CALL priority unit that has no electrical connections with Post Office equipment and allows users to answer calls in strict rotation, has been introduced by Cole Electronics of Croydon, Surrey.

Based on a Zilog Z80 chip, it can handle up to 16 lines and is controlled by a flashing LED in the appropriate position.

astor. The indicator unit consists of a master electronics package, which can be placed behind or underneath the key and lamp unit KLU. Ten and 20 line versions are available and the unit is optically coupled to the KLU.

Only the first line awaiting answer is indicated by a flashing LED in the appropriate position.

Price for a master unit handling six key and lamp units is about £1,000.

Cole Electronics Ltd (CW), 106-110, Westmore Road, Croydon, Surrey. Tel: 01-890 8507.

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Xionics is engaged in the development of an advanced corporate information systems architecture. The first stage of this development is demonstrable, and has been purchased by a number of large organisations. Further stages, extending over the next 5 years, are planned, and we wish to enlarge our development team.

We are seeking experienced software programmers who can meet the challenge of state-of-the-art design and development, and who enjoy the opportunities and demands of a small company environment.

All development activities take place at our Central London premises, and attractive salaries and fringe benefits are offered.

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(241)

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SYSTEMS PROJECTS MANAGER AND SYSTEMS ANALYSTS

Circa £10,000 p.a. to £8,500 p.a.

Our clients, part of an international company, are a major force in retailing.

They are embarking on an exciting development programme which is based on the introduction of DATABASE and COMMUNICATIONS facilities.

Equipment is an ICL 2950 and IDMS will be installed. Additionally, major innovations will take place using MICRO-COMPUTERS for advanced POINT-OF-SALE applications.

As PROJECTS MANAGER you will have full responsibility for a team working on a variety of systems. For this post you should offer at least three years' experience involved in financial or warehousing or distribution applications. Managerial skills will be important.

ANALYSTS should offer a minimum of one year's designing commercial systems, or slightly longer in an Analyst/Programmer role.

In either case, previous experience in the technical areas mentioned would be essential. Necessary TRAINING will be provided.

The Company Headquarters is situated in rural Worcestershire within easy commuting distance of Birmingham. Where applicable, generous relocation expenses will be covered.

The working environment is exceptionally good and the commitment to development will create further career opportunities.

Male or female candidates should contact Patrick Convey quoting ref. no. CW 283.

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CPC

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System Programmers for Microcomputers

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COMPANY:

We are one of the well-known EDP manufacturers in the world with more than 12,000 employees. We are profitable and expanding.

LOCATION:

For our subsidiary in West Berlin we are looking for system programmers.

JOB:

They should be experienced in data communications and networks, particularly with microcomputers in Assembler and HLL (PLM-Pascal-etc.). An additional advantage would be knowledge of Intel 8080, 8088, Zilog Z80, Z8000. Your main responsibilities will be in the development of system modules on real time equipment, e.g. 8 and 16 bit microprocessors.

TRAINING:

We will offer training in case your current programming skills are not relevant.

OFFER:

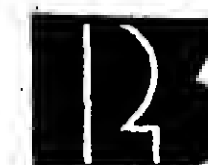
We offer an attractive salary according to experience, coverage of moving costs to West Berlin, German language training, family education facilities, medical insurance, and other excellent fringe benefits. By the way, taxes are lower than in U.K. plus additional advantages for Berlin residents.

CAREER:

We require self-sufficient and ambitious computer professionals who wish to take project responsibility. We, in turn, are offering middle term career opportunities in our subsidiaries all over Europe.

Please send your c.v. to our consultant who will treat your application as strictly confidential, or phone for further information. Interviews will be held in London.
(Ref. 596-460).

(2519)



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UMRCC

University of Manchester Regional Computer Centre
Director: Professor G. Black

UMRCC is a national centre providing a general service to over thirty universities in the United Kingdom. This is currently based on two Control Data 7800 computers each front ended by an ICL 1900. A CDC CYBER 170/720, accessed by over a hundred terminals, provides an interactive computing service to Manchester users.

USER SERVICES GROUP

APPLICATIONS SOFTWARE: SECTION MANAGER

Salary scale £2427 to £10484 p.a., depending upon age and experience or £10142 to £12804 for exceptional candidate, required to manage a section responsible for the acquisition and support of graphical, statistical, numerical engineering, and many other areas of software.
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Salary scale £4402 to £5388 p.a., depending upon age and experience, required to join a team responsible for support of many packages. A special interest in graphics, statistical or engineering packages would be an advantage.
Ref. 188/80

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Salary scale £4402 to £5388 p.a., depending upon age and experience, required to work with a section which produces the manuals describing the computer services offered to our 10,000 users.
Ref. 180/80

If you would enjoy the challenge of working in a stimulating environment with the prospect of a rewarding career, send for further information and an application form (returnable by September 25, 1980) to the Registrar, University of Manchester, Oxford Road, Manchester, M13 9PL, quoting the appropriate reference.

INTERACTIVE SYSTEMS GROUP

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Salary scale £4402 to £7410 p.a. or £5062 to £5768 p.a., depending upon age and experience, required to join a team to develop and support the Cyber 170/720. Systems programming experience desirable.
Ref. 181/80

SYSTEMS GROUP

OPERATING SYSTEMS: PROGRAMMER

Salary scale £4402 to £7410 p.a. or £5062 to £5768 p.a., depending upon age and experience, required to join a team to develop and support operating systems for future NEW multimicros. Systems programming experience desirable.
Ref. 182/80

Applicants for all posts should be educated to degree standard. Benefits include a good pension scheme and generous holiday entitlement. All salary scales are currently under review.

Word Processing Supervisor

Customer Support c. £13,000 + car

We need an experienced professional for this absolutely key role within our support function. The position reports directly to the National Support Manager and carries the responsibility for managing our London Customer Support Representative team.

The C.S.R. Supervisor will be responsible for co-ordinating the activities of the team which range from pre-sale marketing through to actual installation and on-going customer support for our complete range of Word Processing equipment.

A previous DWP background, managerial

experience and solid office equipment installation experience are essential for this role.

The successful candidate will have an innovative approach to the job and the positive management style required in a highly successful and expanding company.

We offer four weeks holiday, contributory pension scheme, BUPA medical scheme and free life assurance.

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2808

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and word
processors



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This is a rare opportunity for a VME/B Operator, who has gained a basic knowledge of SCL, to move into an operations support role. Full training will be given and future career prospects are outstanding.

The ideal applicant will be aged between 20 and 30, have a minimum of an 'O' level standard of education and live within commuting distance of West Middlesex. VME/B experience is essential and a knowledge of ICL System 4 would be useful.

Salary will be negotiated between £5,500 and £6,500 and an excellent benefits package is offered. This position does not involve shift work.

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However we have committed ourselves to an accelerated and wide ranging programme of mechanisation and automation which could lead to rapid computerisation in every appropriate area of the Postal Business.

Hence, we can now offer several very attractive openings at Team Leader level and all in Central London.

What you can expect.

Project work at its best. You will manage projects from feasibility studies through development planning, systems design, equipment purchase and system assembly to programming and subsequent implementation and operation.

Your experience widened. Working with our spread of installations - NCR, Burroughs, Honeywell, Olivetti and others - can only strengthen your professional background and expertise.

A chance to break new ground. You will help to create systems for new areas of computer applications.

What we ask for.

As an experienced programmer and/or systems analyst you must have at least 3 years experience, preferably in the main computer/distributed computing field with COBOL background. You must enjoy working in a flexible environment, and relish the chance to develop your existing expertise and acquire new techniques. You must show yourself capable of motivating and guiding others. You should have a degree or equivalent qualification. Although based in London some travel will be involved.

Starting salary from £7,526 to £8,940 (currently under review) depending on experience rising to a maximum of £8,940. Excellent prospects - first promotion may well put you into senior management grades leading to salaries in excess of £10,000 p.a. All salaries include London Weighting Allowances.

For further information ring Charles Lipton on 01-432 6072. For an application form, write to: Mrs. F. Dillon, Postal Management Recruitment Centre, Ref: PP8.1, Room 339, Postal Headquarters, St. Martin-le-Grand, LONDON, EC1A 1HQ.

The Post Office

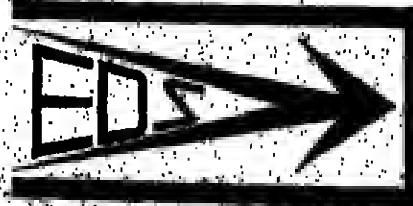
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If so and you are a qualified programmer with knowledge of either: COBOL, ASSEMBLER, PL/I, CICS, IBM SYSTEMS with 2 or more years' experience.

THEN CONTACT

IAN WALLACE



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2 years in assembly programming
total 8000 knowledge
Hardware/Software

Fluency in French not essential
positions with rapidly growing company

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Senior Analyst	E.1	£10,000
Chief Prog (COBOL)	Hammersmith	£10,000
Anal/Prog (COBOL)	Isleworth	£9,000
System Analyst	Slough	To £9,250
System Analyst	Kingston	£9,000
System Analyst	Alpsdon	£9,000
Prog (ASSEMBLER)	Nr. Gatwick	£9,000
COBOL Programmer	Southall	To £9,250
Business Anal (RPO11)	Wembley	£9,000
System Analyst	Redhill	To £9,000
Prog (MINI)	Nr. Gatwick	£9,000
Prog (ASSEMBLER)	Crawley	£9,000
COBOL Programmer	S.W.16	£9,000

If you are interested in any of the above positions, please phone for an Application form or send in your CV.

AMES PERSONNEL
Employment Agency, Suite 12, Division Chambers,
100 Old Street, London WC1H 9AT. Tel: 01-434 1000

£5,000 +	PROGRAMMER	HEREFORDSHIRE	W284
2 years' experience Basic programming - to work on Data general equipment	COMPUTER OPERATOR	WORCS	W283
2-3 years' experience, preferably IBM equipment, 2 shift system	SENIOR PROGRAMMER	COVENTRY	W282
3-5 years' programming experience using COBOL, preferably on ICL equipment. Supervisory experience an advantage.	PROGRAMMER	WORCS	W281
12-18 months' COBOL experience, knowledge of RPGII an advantage. Developing on line facilities.	PROGRAMMERS	WILTS	W283
18 months+ COBOL experience on Honeywell equipment.	SYSTEMS DESIGNER	CHELTHAM	W280
2 years' minimum ICL 1800 experience as either systems analyst or systems programmer. Little user contact.	SYSTEMS ANALYST	COVENTRY	EM223
2-3 years' analysis experience. Commercial background.			
Consultant: Hazel Fogg.			

£5,000	MAINTENANCE PROGRAMMER	LINCS	C48E
Minimum of 2 years' COBOL programming with knowledge of CICS and TPs	SYSTEMS PROGRAMMER	NOTTS	C48E
Up to £7,000	PROGRAMMER	CAMBRIDGESHIRE	C48E
Experience of POP11 hardware coupled with Fortran or Basic Plus. To work on real time applications. User contact.	PROGRAMMER	BUFFOLK	C48E
£7.5k to £8.5k	PROGRAMMER	CAMBRIDGESHIRE	C48E
At least 3 years' COBOL programming experience ideally on Honeywell hardware.	IBM experience desirable coupled with OOS/VIS CICS and COBOL or PLI programming plus analysis. Supervisory role. Accounting and sales systems.	CAMBRIDGESHIRE	C48E
To £7,800 + Bonus TEAM LEADER	ANALYST/PROGRAMMER	CAMBRIDGESHIRE	C48E
IBM experience desirable coupled with OOS/VIS CICS and COBOL or PLI programming plus analysis. Supervisory role. Accounting and sales systems.	PROGRAMMER	LEICESTER	C48E
Up to £7,000	PROGRAMMER	SHEFFIELD	C48E
To develop new systems and enhance existing systems on IBM minis and mainframes. Distribution industry.	SENIOR OPERATOR	SHEFFIELD	C48E
£5000	PROGRAMMER	SHEFFIELD	C48E
With experience of ICL 1800 series and DEC minis with relevant COBOL and Basic Plus. Commercial environment. Senior position.	SENIOR OPERATOR	SHEFFIELD	C48E
08/8k	PROGRAMMER	SHEFFIELD	C48E
Knowledge of IBM hardware with VS1. Supervisory role. Bureau environment.	PROGRAMMER	SHEFFIELD	C48E
Consultant: Roger Carr.	PROGRAMMER	SHEFFIELD	C48E

HELP!

My Consultants are being inundated with well paid vacancies from a very wide variety of client companies. They have asked me to make a special appeal for experienced Programmers, Analysts and Project Leaders to consult us now about these new career opportunities. If you are experienced in commercial or manufacturing applications, phone me or any of my Consultants right now. We will do everything possible to assist you in your vital next career move.

Signed: Bob Maie, General Manager.

To £7,000	SYSTEMS ANALYST	CHESHIRE	8913
Experienced analysts with commercial applications background and preferably programming experience			
To £8,000	SYSTEMS ANALYST	WOLVERHAMPTON	8932
Business Systems Analyst with programming background (COBOL) develop Database to On-Line Manufacturing systems on new hardware.			
£8,000	PROGRAMMERS	MANCHESTER	8935
Two years' plus experience of COBOL on commercial applications with some manufacturing on-line systems.			
£8,500	ANALYST/PROGRAMMER	WOLVERHAMPTON	8948
Opportunity for young Graduates with some programming (preferably COBOL and RPGII) to join a progressive company providing excellent benefits and working conditions.			
£8,500 + Car	SYSTEMS DEVELOPMENT MGR.	WEST MIDLANDS	8960
An experienced man manager to control a team of 16. Development of strategic plan, staff development, user liaison.			
£8,500	PROJECT LEADER	WEST MIDLANDS	8981
To lead a team working on advanced management accounting and financial modelling techniques.			
£8,500	SYSTEMS PROGRAMMER	WEST MIDLANDS	8982
To expand and maintain a communications network, evaluate software and upgrade hardware - preferably UNIVAC under OS/3.			
Consultant: Peter Bowen.			

To £8,000	PROGRAMMERS	BIRMINGHAM	8/87
1-3 years' BASIC programming experience. RII or RSTS/E. Bureau environment. Commercial applications. New office accommodation.	PROGRAMMERS	BIRMINGHAM	8/88
To £7,000	PROGRAMMERS	BIRMINGHAM	8/87
2 years + COBOL preferably mainframe. Commercial and financial applications. New hardware recently installed.	PROGRAMMERS	BIRMINGHAM	8/87
£8,200+	PROGRAMMERS	BIRMINGHAM	8/87
Experience of ICL COBOL is required. Financial/Commercial applications. Insurance Company. Excellent fringe benefits.	PROGRAMMERS	BIRMINGHAM	8/87
Min. £8,500	BUSINESS ANALYST	BIRMINGHAM	8/87
Business Analysts experience, and O and M or Work Study. 'A' level education desirable. Large national manufacturing organisation.	PROGRAMMERS	BIRMINGHAM	8/87
To £8,500	TECHNICAL SUPPORT	BIRMINGHAM	8/87
Experience of MVS T.P. PTAM on large IBM mainframes. New systems development.	PROGRAMMERS	BIRMINGHAM	8/87
To £10,000	PROJECT LEADER	BIRMINGHAM	8/87
COBOL/PLI programming experience, to lead a team of up to 6 programmers. Educated to degree level.	PROGRAMMERS	BIRMINGHAM	8/87
To £8,000	SENIOR PROGRAMMER	BIRMINGHAM	8/87
Good programming background. IBM COBOL. Assembler and CICS would be an advantage.	PROGRAMMERS	BIRMINGHAM	8/87
Developer/Analyst			
Consultant: Christine Pountney.			

any time between 9 a.m. - 5.30 p.m. evenings and weekends by appointment. Reverse charges could be applied. Write - Blackwood Associates, Freeport, Birmingham B2 4BH.

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Recruitment **LOGISTIX** In Informatics

IBM Applications Programmers

Germany: Salary to £17K

A leading multi-national with Data Centres in several E.E.C. countries is seeking IBM oriented Applications Programmers for its recently upgraded 4341 installations. Candidates should have current programming experience in a DL-1 Assembler or COBOL environment and have participated in the program development of an on-line real-time system. Of particular interest will

be those who have worked under CICS, ENVRON or SHADOW since the Company plans to implement a S.N.A. network in 1981. These positions represent an outstanding opportunity for career-minded individuals to enhance their technical skills whilst participating in a financially rewarding society.

Ref: L/38/A

Software Systems Development

Gtr. London Suburbs: Salary to £12K

A leading Systems Supplier situated on the rural outskirts of London has requested LOGISTIX to identify and recruit the following personnel:

PROGRAMMERS/DESIGNERS: Suitable candidates should have a degree in a numerate subject and practical programming experience in either Assembler or C++ or C. Our client's in-house training programme will enhance your programming skills and develop your application knowledge. You will work as a member of a small team designing, coding and testing real time applications software to meet in-house user specifications.

PROJECT LEADERS/MANAGERS: Candidates with proven ability as a Software Engineer or Designer in real-time applica-

tions are sought for Project Leader and Project Manager positions. It is particularly advantageous to have had experience in a similar role and to be conversant with resource management tools and user interfaces. However, candidates with the necessary software expertise and a real desire to combine innovative technical skills with a career in management will certainly appeal to our client.

THE BENEFITS: In addition to a superior salary our clients offer a comprehensive range of ancillary benefits, including relocation/legal expenses, temporary accommodation allowance, pension scheme, and health/medical facilities.

Ref: L/38/B

Banking Systems Specialists

S.E. Asia: PKG. to £20K

One of the most dynamic business environments in the World has recently witnessed the creation of a Systems and Software Consultancy specialising in financial applications. The Company urgently requires Consultants, Analysts and Designers to assist on a long-term, government-sponsored financial project. Not less than 5 years' exposure to on-line Banking or financially-oriented systems is required for all positions. Consultants should, additionally, be able to demonstrate supervisory experience gained during the

development of at least one medium to large computer system. Familiarity with SNA and DB concepts is essential. Preference will be given to applicants for the Analyst/Designer vacancies who have had a substantial programming background in either COBOL or, preferably, APL. Such challenging positions are, naturally, well rewarded with relocation costs, accommodation allowance and a substantial basic salary combining to present a very attractive package.

Ref: L/38/C

Oil & Exploration Systems

Central London: Salary to £12K

A "household name" Company participating in oil production and exploration activities on a global basis seeks additional project team members for its Central London installation. The Company currently runs IBM mainframes with non-homogeneous mini-computers in an on-line stand-alone capacity. Applications Programmers and Systems Analysts should offer significant experience in a T.P. or DBMS environment. More important than specific programming languages used are

the applications areas in which candidates have previously worked. Programmers and Analysts will be considered to have relevant skills if they have programmed or analysed in the areas of: Sales forecasting/budgetary applications, seismic and cartographic data analysis, production and materials control and spare parts/order scheduling. Salaries and fringe benefits are exemplary and will appeal to career oriented professionals.

Ref: L/38/D

Office Automation

Greater London: Salary to £10K

A market leader in the areas of office automation and information science technology has an urgent requirement for Systems Programmers. Suitable candidates will be graduates with a minimum of two years' Assembler or Pascal programming experience. Those who have developed a mini-computer or micro-processor operating system or who have had recent

exposure to SNA will certainly be attractive to our client. You will work as a member of a small project team developing State-of-the-Art Software with particular emphasis on electronic mail, text and word processing. As well as excellent career prospects your financial benefits will exceed those paid by most other comparable companies.

Ref: L/38/E

Logistix, 10 Grenville Place London SW7 4RW

01-373 7063



Telex: 28800

LOGISTIX LTD

Senior Consultants Industry/Computing London based

to £18,000

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Product Manager Hardware/Software

c. £10,000

Our client wishes to recruit an experienced team leader who will have an up-to-date mix of hardware and software skills. The person appointed will be responsible for a team of engineers and programmers, with duties ranging from new product introduction to product maintenance. Relocation assistance where applicable.

Senior Analyst/Programmer Mini Computer Business Systems

c. £10,000

This is a very attractive position within a very prestigious management consultancy. Prospects for career progression are excellent. Candidates must be degree level, or equivalent, with experience in financial and business applications, preferably at minicomputer level. You will be part of an expanding small team, quick to learn and capable of matching client needs with package specifications.

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c. £8,500 + car + bonus

Candidates should be familiar with micro development, degree level, or equivalent, have a good client manner and management potential. Programmers — Fortran, Fort, Assembler. Engineers — T.V. Monitors, special interfaces, graphics. Training given in U.S.A.

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City based — c. £8,000

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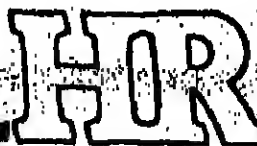
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Herts. and N. London. Car for support programmers. IBM 370 and various mini and graphic systems.

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Attractive location, support oriented, relocation offered.

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Salary scales under review.

- A. £7032-£8551 per annum
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C. £5537-£6748 per annum

Applications are invited from suitably qualified and experienced persons for the above posts in the Board's Computer Centre which is located at 27 Park Circus, Glasgow, C3.

Candidates for Post A require considerable experience in computing and proven ability to design and install complex systems. Programming experience is desirable while knowledge and experience of the National Health Service would be advantageous.

Candidates for Post B will be required to share and whenever appropriate supervise the work of systems staff engaged in the creation and maintenance of an ICL 1803T based computer system for financial and administrative applications. They should also have around four years' relevant experience and a good educational background.

Candidates for Post C should have had relevant experience and a good educational background.

Application form and job description may be obtained from the Personnel Officer, Greater Glasgow Health Board, 351 Sauchiehall Street, Glasgow, G2 3HT, to whom completed forms should be returned not later than Monday, September 15, 1980. (2582)

Technical Support Group ANALYST/ PROGRAMMERS c£7600

We require two Analyst/Programmers to join our expanding Technical Support Group. This Group is responsible for Data Base, TP, Systems Software and Technical Assistance supporting both Systems Development Groups and Operations.

The main computer systems supported comprise an IBM-370/148 running DOS/VS and an IBM 4331 running VM/370. Plans are being finalised to convert the DOS/VS system to DOS/VSE on a 4 megabyte IBM 4341.

Candidates should have at least 2 years' experience of using COBOL under DOS/VS. In addition some analytical experience and exposure to DB/DC Software, preferably TOTAL and Environ/1, would be desirable.

We can offer excellent working conditions, flexible hours, subsidised staff restaurant and 22 days holiday per annum.



Please apply to:
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Berec Group Limited
Berec House
1285 High Road
Whitehouse
London N20
Telephone: 01-448 1313 (2584)

COMPUTER PROFESSIONALS ANALYSTS/CONSULTANTS

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We offer: Major back up facilities. National advertising. Computerised information retrieval. Initial stage profile of clients' requirements. Client vetting. Final systems recommendations. No hard selling. Job satisfaction. No ceiling on earnings.

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Also vacancies for Aberdeen, Edinburgh, Newcastle, York, Leeds, Sheffield, Nottingham, Stoke-on-Trent, Manchester, South Wales, Lancaster, Bristol, Bedfordshire, London North, Kent, Dorset, Devon, Cornwall, Dublin and Belfast.

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COMPUTER POWER CONDITIONING AND DISTRIBUTION SYSTEMS PACKAGE TO £12,800+

Liebert Corporation, acknowledged leaders in the computer air conditioning market have recently introduced a range of computer power conditioning and distribution systems which have already established a leading position in America.

We now intend to achieve the same success in Europe and seek an experienced Product Manager to handle all commercial and technical aspects of product support. This includes product introduction and education of Distributors, liaison with computer manufacturers and standards organisations, pre and post sales support and future product recommendation preparation.

This is an excellent opportunity. In a high growth rate company for an ambitious, qualified engineer with the capacity for independent work that new product introduction involves.

Prospects are entirely related to the initiative and self drive employed. The remuneration package is structured to reward success and is flexible.

If you have a detailed knowledge of computer power supply problems, some sales experience and, ideally, European experience please write, providing a brief c.v. or, preferably, telephone me for an interview.

Mike Tulker
Regional Manager Europe
Liebert Corporation
Denmark Street, Maidenhead, Berks
Telephone: Maidenhead (0628) 73003 (2574)



CONTRACT? THE DOS, COBOL, PROGS.

Immediate start West End

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■ assist in checking the installation of new software releases and new packages, and run a parallel development system to the standard production system

■ carry out sizing of the system to maximise its efficiency.

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Shift Allowance: 12½% rising to 17½% when 3 shifts are resumed.

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Culham
Laboratory

Please send me an application form for Shift Support Staff
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SOFTWARE SUPPORT PROGRAMMER £7000 NEG

RAIR require a Software Support Programmer to provide a customer support and advisory service for their advanced microcomputer range. A sound general knowledge of hardware and software is essential, and previous micro experience an advantage.

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PROGRAMMERS

Surrey — Middle East to £9,000 + overseas allowances

The Company.

A leading international services organisation which has proved itself to be an industry leader in the fields of computing, communications, electronics and management science. As a group it covers a wide range of work for clients in the public sector and on the commercial side, clients come from such areas as finance, manufacturing, retail and distribution.

The Candidates.

Why the applications from ambitious programmers with up to 2 years' IBM COBOL or PL/I experience, who can demonstrate substantial achievement in fulfilling end-user requirements in a commercial environment. A knowledge of IMS, Mark IV and DOS/VS would be a distinct advantage.

Travel and Benefits.

Immediate opportunities exist for long-term, in particular short assignments of up to 6 months in the Middle East. Rewards are excellent and the attractive salaries will be commensurate with experience. The benefit package includes generous overseas allowances, life insurance and private medical cover. Contact: Margaret Stevens

Senior Analyst/Programmers

London & Luxembourg £10,000+ Overseas Allowances

Our client, a Swiss management Consultancy with offices in Zurich, Frankfurt and Luxembourg and specialising in banking and financial systems, wish to recruit professionals to take responsibility for particular areas of a large project.

The position will initially involve a 12 month period in Luxembourg as a senior member of a project team, designing, programming and implementing a Foreign Exchange dealing system. Before returning to the U.K. to become a member of the London staff.

Three years experience of PDP11/34 operating under RSTS/E and programming in BASIC+ and preferably knowledge of financial applications are the main qualifications. Whilst abroad you will enjoy free accommodation and a daily overseas allowance as well as the excellent basic salary and benefits.

Contact: Brian Postle

Analyst/Programmers

£10,000

City

Opportunities exist to join the financial world with this well established commodity broker, who are currently recruiting their own data processing team to take over from the software house who have just completed implementation of a PDP11 network. At least three years in computing with an in-depth knowledge of DEC hardware and financial applications would be ideal, but consideration will be given to high calibre candidates with a good commercial background, encompassing the development of a major accounting system.

The company offer good prospects and salaries coupled with substantial fringe benefits.

Contact: Janet Chivers

Senior Systems Analysts

To £10,000

Central London

This is an excellent opportunity to join a rapidly expanding international organisation operating in oil field services. The company is just embarking on an eighteen month plan to decentralise its data processing and to re-develop all its systems on large IBM System 34 machines.

Applicants must be well educated and should possess at least three years systems analysis experience. Ideally trained in a financial environment. The ability to plan and control projects together with a background in business systems development would be a definite advantage.

These openings are London based but there will be opportunities to travel internationally.

Contact: Isabel Bruce

Senior Analyst/Programmer

neg. £8,000 - £10,000

London

A major international accounting and management consultancy organisation has recently launched a new 7800 A.S. 110. The new programme is expected to launch small systems and programming department. Candidates will have a good basic computing background, with about 5 years systems and programming experience gained in a COBOL environment. Experience of DEC hardware software is desirable but more important is a professional and independent approach to systems development. The Company offers first class working conditions, excellent fringe benefits and genuine career possibilities.

Contact: Jim Baker

Programmers — Software/Applications

to £9,000

Surrey

Our client is one of Europe's leading consultancies in computing and communications. A major new growth area within the company is its IBM project development and technical consultancy activities.

This work will be based in new offices in a country house in Surrey. The role provides an exceptionally attractive working environment and will appeal to those who prefer a rural setting for their work.

Applications are sought from systems and applications programmers with experience in IBM operating systems, communications, COBOL and Assembly level programming. An attractive remuneration package is offered and opportunities exist for overseas travel.

Contact: Margaret Stevens

COBOL Programmer

up to £8,000

Herts

A small but expanding systems house has an immediate vacancy for an experienced COBOL Programmer to work on the development of a minicomputer timesheet system. Applicants must have at least two years COBOL experience, preferably on ICLs. Other languages, such as BASIC, would be an advantage.

Contact: Jim Baker

JAMES BAKER ASSOCIATES, International Personnel Consultants

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We have two areas for which we want people and for both we require the person to have a Science Degree.

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We are developing software for an Intel 8086 based micro-processor control system using PLM86 and ASM86. The applicant should have knowledge of Intel development systems and the above languages but a person with Intel 8080 experience would be considered.

AUTOMATIC TESTING OF P.C. BOARDS

We are developing test programs in ATLAS on an Instrumentation Engineering System Type 390. Our range of PC boards is from high level analogue, over hybrid, to micro-processor based boards. The applicant should have experience in automatic measuring technology and a knowledge of fundamental electronics.

Applications which will be treated in confidence and in the first instance CVs should be sent to: Mr. Garry Symes, Beam Ends, Bank Street, Bishop Waltham, Hants SO3 1AN, or telephone 04893 2524 (at any time).

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- ★ Project Leader/Senior Analyst (Ref. 171) £10-14K
- ★ Programmer/Analyst (Ref. 198) £6-8K
- ★ Application System Engineers (Ref. 198) £5½-10K

For information on these and other appointments contact:

Kate Isin
Computer Consultancy Manager
MCS/Robertson & Scott Recruitment Ltd.
179-199 Shaftesbury Avenue
LONDON WC2H 8AZ. Tel. 01-836 3464

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If you are capable of learning and taking the responsibility of working under minimum supervision and demand an opportunity to consolidate and enhance your DOS/VS experience while developing under instruction an expertise in CICS/VS, then these positions are ideal. You will enjoy the security of a highly reputable and long-established City firm and yet experience the excitement of a small and intensively dynamic installation where you will help in new systems design and program specifications.

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For an initial exchange of information contact BOB BOWER, the Advising Director

Reference CW91/1.

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Contact David Whelan 061-491 1666
Ref. C148

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061-491 1666

81A St Paul's Street
Leeds LS2 8PL
0532 369411

TWO ANALYST/ PROGRAMMERS SALARY NEG. £6.5K-£7.5K

Required for a national company involved in food and distribution industries for Merseyside and Kent. Three years' RPGII experience required on IBM System 3, 32, or 34 with some systems background preferred.

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Ref. C261

DEVELOPMENT COORDINATOR WIRRAL, MERSEYSIDE TO £9K

A vacancy exists for an experienced Senior Analyst to join a small systems team in a large food distribution group, to undertake development in a variety of leading edge products. Ideal experience should include IBM OS/VS or PDP, MUMPS or MICRO BASIC + II.

Tel: Alan Morton 061-491 1666
Ref. C303

SENIOR ANALYST/ PROGRAMMER LIVERPOOL £7-8K

Self-starter required for a major shipping company in City centre. The applicant must have good COBOL and in-depth experience of interactive VDU-based systems and on-line working. To undertake development work in analysis, design and implementation - working to agreed standards.

Tel: Alan Morton 061-491 1666
Ref. C28

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If you can offer at least 2 years' PL/1 and/or BASIC programming experience, then these positions offer new project experience involving real-time and database software together with User liaison in the systems development phase.

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(DF1892) 3+ years financial... 750 9
(DF1893) 4+ years (seniors)... 800 9

PROGRAMMERS
(DF1894) 18+ months COBOL... 6000 4
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(DF1897) 3+ years COBOL... 6750 6
(DF1898) 4+ yrs (seniors) COBOL... 7250 7

Contact Susan Stuart

Coventry

ANALYSTS
(DF1899) 2+ years commercial... £600 2
(DF1900) 3+ years database... 7750 4

PROGRAMMERS
(DF1901) 18+ months COBOL... 6750 2
(DF1902) 2+ years COBOL... 6500 5
(DF1903) 4+ yrs (seniors) COBOL... 7800 4

Contact Susan Stuart

Leicestershire

ANALYSTS
(DF1904) 18+ mths commercial IBM... £500 2
(DF1905) 2+ yrs financial IBM... 8500 2
(DF1906) 3+ yrs manufacturing... 7000 2

PROGRAMMERS
(DF1907) 18+ months COBOL... 6250 2
(DF1908) 2+ years COBOL... 6500 3
(DF1909) 3+ yrs (seniors) COBOL... 7000 3

Contact Susan Stuart

Nottinghamshire

ANALYSTS
(DF1910) 2+ years commercial... 7000 2
(DF1911) 4+ years (seniors)... 7750 5

PROGRAMMERS
(DF1912) 2+ years COBOL... 6500 18
(DF1913) 4+ yrs (seniors) COBOL... 7500 4

Contact Susan Stuart

Staffordshire

ANALYSTS
(DF1914) 2+ years commercial... £600 3
(DF1915) 4+ years (seniors)... 8000 2

PROGRAMMERS
(DF1916) 2+ years PL/1... 8500 7
(DF1917) 2+ years COBOL... 8500 2
(DF1918) 4+ yrs (seniors) COBOL... 7500 2

Contact Susan Stuart

Greater Manchester

ANALYSTS
(DF1919) 18+ mths commercial... £600 5
(DF1920) 2+ yrs manufacturing... 7000 3
(DF1921) 3+ years financial... 7000 4
(DF1922) 4+ years (seniors)... 8000 2

PROGRAMMERS
(DF1923) 12+ months COBOL... 6500 3
(DF1924) 2+ years COBOL... 6500 5
(DF1925) 3+ years COBOL... 7000 4
(DF1926) 4+ yrs (seniors) COBOL... 7500 3

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Merseyside

ANALYSTS
(DF1927) 12+ mths commercial... £600 3
(DF1928) 2+ years production... 6700 4
(DF1929) 3+ years financial... 7250 5
(DF1930) 4+ years (seniors)... 8500 3

PROGRAMMERS
(DF1931) 18+ months COBOL... 6500 5
(DF1932) 18 months IBM... 7000 5
(DF1933) 3+ years COBOL... 7250 5
(DF1934) 4+ yrs (seniors) COBOL... 7500 4

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Lancashire

ANALYSTS
(DF1935) 12+ mths commercial... £600 3
(DF1936) 18+ months financial... 6500 2
(DF1937) 2+ years manufacturing... 7000 2
(DF1938) 3+ years commercial... 8000 2

Lancashire

PROGRAMMERS
(DF1939) 12+ months COBOL... 6500 3
(DF1940) 18+ months COBOL... 6250 3
(DF1941) 2+ years COBOL... 6700 4
(DF1942) 3+ years COBOL... 7200 4

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Yorkshire

ANALYSTS
(DF1943) 12+ mths commercial... £600 3
(DF1944) 18+ months financial... 6800 4
(DF1945) 2+ years retail... 7300 4
(DF1946) 3+ years commercial... 7750 5

PROGRAMMERS
(DF1947) 12+ months RPGII... 6500 2
(DF1948) 18+ months COBOL... 6250 5
(DF1949) 2+ years COBOL... 6500 4
(DF1950) 3+ yrs (seniors) COBOL... 7200 5

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Humberside

ANALYSTS
(DF1951) 2+ years manufacturing... £750 2
(DF1952) 3+ years commercial... 7500 2

PROGRAMMERS
(DF1953) 18+ months IBM... 6500 2
(DF1954) 3+ years COBOL... 7000 2

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Cambridgeshire

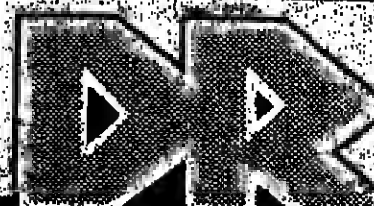
ANALYSTS
(DF1955) 12+ months financial... £600 2
(DF1956) 3+ yrs commercial IBM... 8500 2

PROGRAMMERS
(DF1957) 12+ months PL/1... 6250 2
(DF1958) 2+ years COBOL... 6500 3
(DF1959) 3+ years systems... 7000 2

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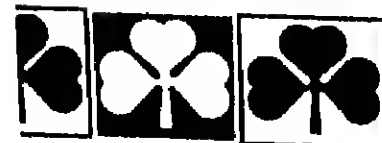
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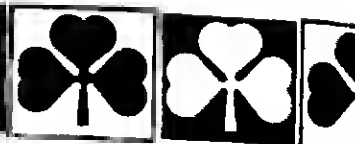
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APPOINTMENTS IN IRELAND



Shortage of skilled personnel in Eire's booming electronics

DESPITE the dark economic clouds hanging over Europe these days, there is one particularly bright star in the sky as far as Ireland is concerned, and that is the booming development in its electronics industry. The outlook for employment is buoyant and the only restricting factor is a shortage of highly skilled and experienced people.

During the past three years Ireland has been experiencing a spectacular growth of activity in the computer and electronics field. This has been due mainly to the setting up of industries here by foreign manufacturers; also, the availability, at a relatively low cost, of an increasingly wide range of computer facilities, particularly microprocessors, and the recognition, in continental Europe, especially, that we have people in Ireland who could be developed technically for the production of high class computer software.

Because of the efforts of

the Irish semi-state body, the Industrial Development Authority (IDA), a number of the top 100 US electronics firms are already established in Ireland. These include General Electric, Digital, Westinghouse, Memorex, Varian, Beckman, Amdahl, Leeds & Northrup, Data Products, Data 100, Bell & Howell, and several recent additions are:

Prime Computer Inc has set up a subsidiary in Dublin (Prime Computer Ireland) for the manufacture of minicomputer systems. Employment in due course will be almost 300. Wong Laboratories is setting up in Limerick to produce computer systems, word processing systems and related peripheral devices. Employment will reach 1,600 when fully developed.

Amdahl, already established in Dublin for two years, has announced plans to double employment there to 400, bringing total investment in plant and equip-

ment to £6.3m. One-third of the additional 200 jobs will be filled by highly skilled and professional staff. The increase in job approvals by IDA electronic projects rose from 1,600 in 1976 to almost 9,000 in 1979, with a capital investment of £141.2m. In 1976 electronics accounted for 8.9% of total job approvals; in 1979 it was more than 20%. It is forecast that employment in the electronic manufacturing sector will more than double within the next five years, and will be one-third of all new jobs created during that period.

Sophisticated

While currently most of the electronics manufacturing activity in Ireland is effectively assembly and component work, it is becoming increasingly recognised that this base of technical experience can and must be used for the development within the country of more sophisticated electronic and allied products.

There is plenty of scope for the exercise of entrepreneurial skills. One instance is the opportunity to set up computer software houses. Some firms have already seen the advantages to be gained from locating research and software development bases in Ireland: the availability of suitable manpower (subject to adequate training), competitive salary levels by Continental standards, and excellent government aided export facilities. Ireland has a growth rate in computer services double that of Western Europe and the potential is virtually unlimited.

Euroco International, Turnkey Systems Inc and Doonox are recent examples of such enterprise in the software field. These three companies alone will provide 171 jobs, of which 146 will be for skilled people. There are at present 90 foreign companies in the Irish electronics industry, employing 11,500 people. It is estimated that by 1985



by Sean Bedford

Sean Bedford was born in Dublin and has spent 40 years in the Irish public service, mainly with the Irish Revenue Commissioners where he was collector general of taxes for 17 years until March this year, when he joined IMPC Ireland. As Collector-General of Taxes he was responsible for the designing and implementation of an integrated computer system to automate the administrative structure, and he established a Revenue Computers Centre. He is senior consultant, special projects for IMPC Ireland, providing advice in the computer end related fields.

This total will have increased to 25/30,000, with an associated output valued at £1,250m, and that over one-third of this labour force will be in the professional/skilled categories.

There is a current identifiable demand for at least 200 computer programmers a year over the next three years and there is a chronic shortage of programmer technicians, according to the Confederation of Irish Industries.

At present 100 electrical engineers and 200 electrical technicians graduate each year from universities and technological colleges. Plans are being implemented to raise this to 200 and 320 a year respectively by 1983.

Investment

Substantial investment is being made by the Irish government in the related educational field, including the provision of £1m for a wafer fabrication laboratory, the provision of

£1m for a microelectronic research centre in University College, Cork, and the establishment in the National Institute of Higher Education in Limerick of a centre to investigate the application of integrated circuits.

The availability of highly trained personnel is central to the development of electronics in Ireland.

At present there are not enough people in Ireland with the necessary training and matching experience to meet the technical demand, especially at systems analyst, programmer, electronic engineer and technician level.

An influx of skilled personnel, including in particular expatriates, would help to bridge the gap until the momentum of development would result in the catching up of experience with training in home-produced technical staff for the electronics industry. There are, therefore, many attractive job opportunities in the computer and

electronics industry at present available for those who might find Ireland an attractive place to work.

The attractions are quite worthwhile. Firstly the remuneration available for skilled computer people is conservatively regarded as more than favourable when compared with similar levels in the UK.

There is ample scope for personal career development in this expanding sector of the Irish economy, and this is probably the most opportune time to get in on the ground floor.

The environment is pleasant and has a great deal to offer to family people. Many of the enterprises are sited in towns with picturesque hinterlands, such as Cork and Galway. Most are in close proximity to universities or regional technological colleges.

Relocation grants are available through the Irish National Manpower Services which help to minimise the cost of moving to Ireland.

IRISH RECRUITMENT

Digital Equipment International is a world leader in the mini-computer field, currently employing 1,200 people in Ireland at our Dublin, Galway and Clonmel locations. Our Clonmel operation will expand from the present 48,000 sq. ft. to a 150,000 sq. ft. facility by 1982. To help support this growth we require the following:

SOFTWARE ENGINEER

We require a Software Engineer to develop and maintain the Software on our many computer controlled pieces of manufacturing/leak equipment. Also, to find and correct diagnostic problems arising during the production of our CPUs. Applicants should have a degree and several years Software experience.

PROGRAMMER/ANALYST

This job involves both systems analysis and programming activities. Interface with a variety of systems will be required but predominantly in the areas of manufacturing and material systems. We require a person with a minimum of 2 years Cobol Programming and a broad experience of systems analysis who has the ability to grow in this environment.

We are looking for self-motivated people who enjoy challenging work, like dealing with people and who are looking for a job with a broad perspective.

Salary and conditions of employment are excellent and a very generous relocation allowance is payable. We also operate a pension scheme and a health insurance scheme for you and your family and first class opportunities for career development exist within the corporation, both in Europe and the U.S.

If you satisfy the above criteria and you are interested in joining a company that offers outstanding opportunities, wide ranging development and growth then we are anxious to talk to you. Interested applicants should write, including a telephone number where you can be contacted, or phone for an application form to:

Mike Gullioyle, Personnel Department,
DIGITAL EQUIPMENT INTERNATIONAL LIMITED,
Waterford Road, Clonmel, Co. Tipperary, Ireland.
Phone (052) 22055.

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Aer Rianta

Irish Airports

Aer Rianta - Irish Airports - is engaged in the management and development of the three State Airports at Cork, Dublin and Shannon and operates associated commercial activities. Turnover exceeds £40 million per annum. Continuing expansion means an ever-growing need for people and also means opportunity for the individual with excellent prospects for career development. In order to ensure that our systems are geared to meet the rapidly changing requirements of the airport industry our computer development plans include:

Multiple Real-Time Systems Database, Word Processing. We currently support systems on Honeywell Level 64 and Level 6 Computers utilising a distributed network of Terminals and Minicomputers. On-Line programme development and T.U.S. Transaction Processing Software. Our immediate requirements are for experienced people who have been working to high standards with the latest techniques especially Real-Time Systems using Transaction Processing and Database Software.

Analyst/Programmers

A minimum of 3 years experience of commercial or financial systems including successful implementation of several projects and a programming background using COBOL are required for this position.

Operations Manager

A minimum of 5 years Operations experience with a medium to large scale installation functioning in a Distributed Processing environment and preferably having had management responsibility for such an Operations Unit.

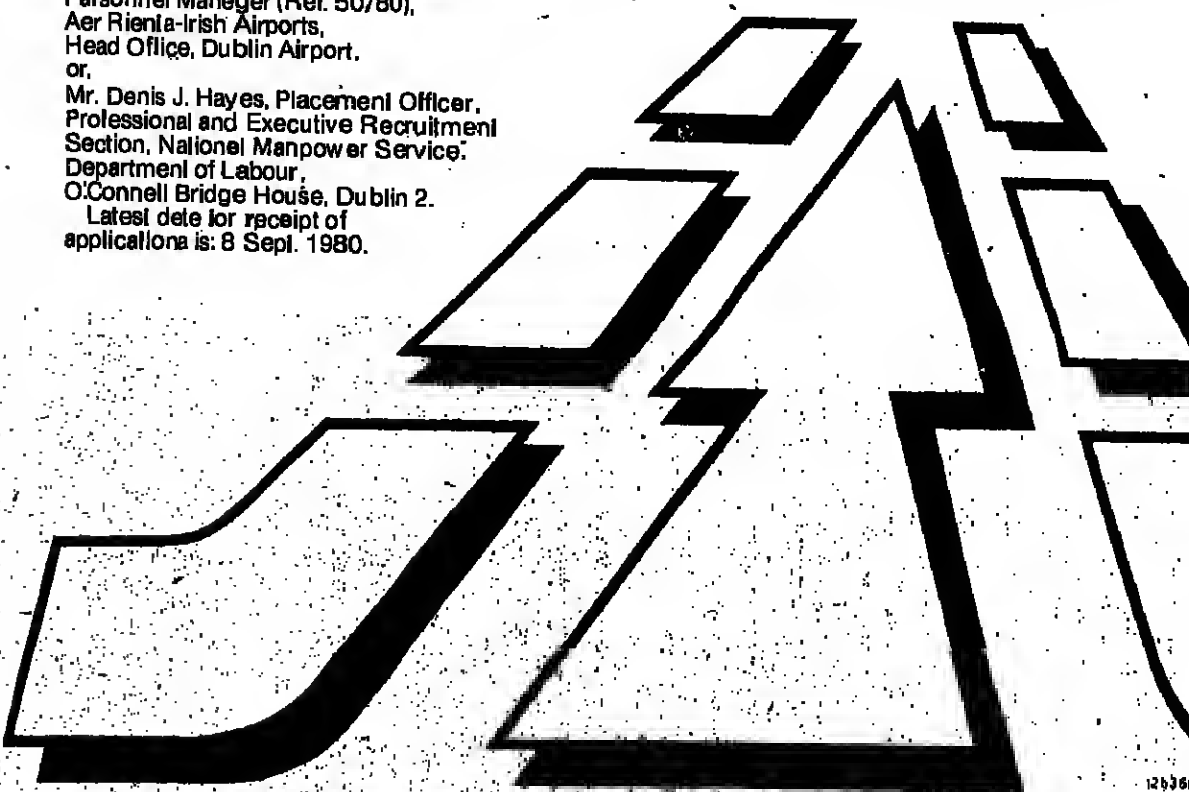
Systems Programmer

Wide experience of operating systems, data communications, and transaction processing - will some previous applications programming and systems work - is the requirement for this position. Honeywell experience of G.C.O.S. and T.D.S. would be of particular value. I.B.M. experience in C.I.C.S., D.L.I. and D.O.S./V.S. would also be of interest. However, the main ingredient required is adaptability and persons with suitable experience on any equipment will be considered.

In addition to attractive salaries, Aer Rianta offers a pleasant working environment with excellent fringe benefits including free VHI coverage, telephone allowances and assistance with holiday expenses. A contributory pension scheme is in operation. Interview and relocation expenses may be paid where applicable.

To apply, write, giving full details of age, training, work experience and other relevant details, to: Personnel Manager (Ref. 50/80), Aer Rianta-Irish Airports, Head Office, Dublin Airport, or

Mr. Denis J. Hayes, Placement Officer, Professional and Executive Recruitment Section, National Manpower Service, Department of Labour, O'Connell Bridge House, Dublin 2. Latest date for receipt of applications is 8 Sept. 1980.



M.I.S. Professionals

A career move and a better life in the West of Ireland.

Digital Equipment International is a subsidiary of the world's leading interactive computer manufacturer. We employ 1,000 people in Ireland at three locations: the largest of which - our Galway plant, is the major manufacturing site for Europe. In line with our continued growth, we now require MIS specialists at Programmer/Analyst level and above for Galway and Clonmel.

The MIS department, along with meeting the day-to-day needs of a large manufacturing plant is also our main data centre supporting European volume manufacturing. It utilises a large DEC SYSTEM-10 mainframe using TOPS-10 monitor.

Applications cover a wide range of systems using teleprocessing, database and batch processing techniques.

Salary and conditions of employment are excellent and a generous relocation allowance is payable. We also operate a progressive career development programme, so future prospects are first class.

Galway City, in the West of Ireland, offers excellent social and sporting facilities plus a wide range of attractive housing.

If you are interested, then write to Harry Ruane, Personnel Department, with full details of your experience and qualifications plus, if possible, a telephone number where you can be contacted.

digital

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Analog Devices B.V., based in Limerick City with over 300 employees, is a leading designer and manufacturer of high technology integrated circuits used in the manufacture of precision control systems.

Experienced RPG II PROGRAMMER

£7,000 +
with a desire to participate in systems analysis and design.

Candidates, male or female, should have two to three years programming experience with a minimum of one year in RPG II.

Working with a small but rapidly growing department, utilising an IBM System 34, the successful candidate will participate in the design and programming of new manufacturing and financial applications including a real time integrated work-in-progress/standard costing system, real time order entry system and a purchasing/MRP package.

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Please write to or telephone (reverse charges) for further information to:

Personnel Manager,
Analog Devices B.V.,
Raheen Industrial Estate,
Limerick,
Tel. 061-29011

OR Maurice Johnston,
Placement Officer,
National Manpower Service,
O'Connell St., Limerick,
Tel. 061-43300

ANALOG DEVICES

GALLAHER (DUBLIN) LIMITED

have a vacancy for a

SYSTEMS ANALYST

Gallaher (Dublin) Limited, situated at Tallaght in a south-western suburb of Dublin is part of a major international company, engaged in the manufacturing and marketing of tobacco products, including such well-known brands as Benson & Hedges, Silk Cut, Mellow Virginia, Hamlet, etc. We have recently upgraded our Data Processing facilities to a Honeywell 82/60 mainframe with 384K Memory, 120 MB Disk Storage, and 600 LPM Printer using GCOS and Transaction Processing through VOU's. We now wish to expand our D.P. Staff and require an experienced Systems Analyst.

Ideally, candidates should have a professional qualification or a degree equivalent preferably related to Computer Science, Mathematics or related areas. Significant D.P. experience may be acceptable. Applicants should have good analysis experience coupled with a COBOL programming background. They must be able to demonstrate that they have played a senior role in the design and implementation of at least one major system.

Salary and fringe benefits for this position are attractive. Applicants should, in the first instance, send a detailed curriculum vitae to:

The Personnel Manager, Gallaher (Dublin) Limited,
Virginia House, Greenhill Road, Tallaght, CO. DUBLIN

to arrive not later than Friday September, 19th 1980.

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All classified copy should reach our offices no later than 3.30 p.m. on the Monday preceding Thursday's publication.
If possible, please telephone 01-261 8019.
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UMRCC

University of Manchester Regional Computer Centre
Director: Professor G. Bleck

UMRCC is a national centre providing a general service to over thirty universities in the United Kingdom. This is currently based on two Control Data 7600 computers each front ended by an ICL 1900. A CDC CYBER 170/720, accessed by over a hundred terminals, provides an interactive computing service to Manchester users.

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PROGRAMMER

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LOCATION:

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JOB:

They should be experienced in data communications and networks, particularly with microcomputers in Assembler and HLL (PL/M, Pascal etc.). An additional advantage would be knowledge of Intel 8080, 8088, Zilog Z80, Z8000. Your main responsibilities will be in the development of system modules on real time equipment, e.g. 8 and 16 bit microprocessors.

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We will offer training in case your current programming skills are not relevant.

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We offer an attractive salary according to experience, coverage of moving costs to West Berlin, German language training, family education facilities, medical insurance and other excellent fringe benefits. By the way, taxes are lower than in U.K. plus additional advantages for Berlin residents.

CAREER:

We require self-sufficient and ambitious computer professionals who wish to take project responsibility. We, in turn, are offering middle term career opportunities in our subsidiaries all over Europe.

Please send your C.V. to our consultant who will treat your application as strictly confidential, or phone for further information. Interviews will be held in London. (Ref. 595-440)

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Applicants should have a minimum of 2 years experience of CORAL, ASSEMBLER or RTL2, although knowledge of any other high level language would be an added advantage.

The company can offer interesting and demanding projects, so if you feel you have the necessary experience and would like to take the opportunity of furthering your career please contact Lorna Harvey quoting ref: 856P.



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Candidates should have a good honours degree or equivalent qualification in a field including a substantial element of computer science or pure mathematics. They should have a minimum of 5 years experience in the data processing field. Applications should be sent to the Lecturer in Charge of the Department of Mathematics, Polytechnic of North London, Holloway Road, N7 8BZ. Closing date: 14 days from the appearance of this advertisement.

UNIVERSITY OF THE
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DIVISION OF
COMPUTER SCIENCE

Applications are invited from suitably qualified persons, holders of a B.Sc. or equivalent degree for appointment to positions in the Division of Computer Science. Permanent positions of various levels are available and applicants for contract or visiting positions are also welcome. The University will normally contribute towards travel expenses.

The Division runs a major programme in Computing Science in the Faculty of Science and has a thriving research programme. The University has an IBM 370/150 Computer with an interactive terminal system and the Division has its own microcomputer laboratory.

Available posts and salary scales are:
Associate Professor: R14 850 - R19 500 p.a.
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Lecturer: R 9 100 - R14 850 p.a.
(C1 - R11 800 p.p.a.)

In addition the University pays an annual bonus of approximately one month's salary to permanent staff.

Intending applicants should obtain the information sheet relating to these positions as well as the general information sheet which will also give information of the lower cost of living and other more detailed information from the University of the Witwatersrand, Jan Smuts Avenue, Johannesburg, 2001, South Africa. Applications should be lodged with the Registrar for Jan. Plan, 19th October 1980. (2600)

UNIT
COMPUTER
MANAGER

Ref. C04/123/80. Applications are invited for a person to take charge of the day-to-day administration of the Computer Centre. The person should be responsible for the management of the academic teaching and research. Applicants should have a minimum of 5 years experience in a similar position, or have had detailed experience of all the above responsibilities. The successful candidate will be responsible for the day-to-day management of the computer centre and will have a large number of staff reporting to him/her. Salary on a scale to a maximum of £11,000 p.a. plus pension. Further particulars, quoting the above reference, may be obtained from the Registrar, University of the Witwatersrand, Jan Smuts Avenue, Johannesburg, 2001, South Africa. The closing date is 13 September 1980. (2624)

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Box number, please specify, or address to:
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University of the Witwatersrand
Johannesburg 2001

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Minimum requirements are drive, ambition, mobility and two years programming experience in any major language including COBOL, RPG, BASIC and PL/1 on MINIS or MAINFRAME.

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COMPUTER WEEKLY

DP Opportunities in Banking and Insurance

Special Feature September 11 Issue

The September 11 issue of Computer Weekly — Britain's largest circulated computer publication — will contain a special feature outlining the career opportunities and employment prospects open to data processing personnel in banking and insurance. Computer Weekly is the only publication to regularly publish editorial features covering a variety of subjects linked to the job market scene. In view of the continuing shortage of qualified DP Personnel, the need to create a greater awareness amongst readers of the scope and future career prospects available is all important.

The combination of this special editorial feature and Computer Weekly's large penetration

amongst analysts, programmers and operations staff, provides a first class recruitment advertisement platform.

Computer Weekly has the largest circulation in the specialist computer press (91,656 ABC July-Dec 1979). This has increased continually over the years to reflect the ever growing number of personnel in the computer industry. Additionally, and equally important, the newspaper has the highest number of individually requested copies of any weekly computer publication.

Advertisement rates are based on £16.00 per sec, and to be sure of your space reservation in this important issue, advanced reservations are advisable. Copy deadline is September 8th.

COMPUTER WEEKLY

THE NEWSPAPER COMPUTER PEOPLE RELY ON

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ANALYSTS Insurance, Banking	London
PL1 Analyst/Programmers	UK/Europe
IBM DOS/ASSEMBLER Analyst Programmer	USA
MARK IV Analyst Programmers	USA London/Essex



For more information telephone:
Alan King
Tangent Computer Service
102/108 South Street
Romford, Essex.
Tel. Romford 780201

(2569)

THE UNIVERSITY OF SHEFFIELD

PROGRAMMER

The University of Sheffield is seeking a programmer to join its staff of machine coding and the application of computers in the University. Although much of the work is in the field of machine coding, the Department also has considerable experience in the application of computers to the solution of problems in the 2801 candidates without experience of assembler language programming will be considered. If they have experience of a high-level language such as Pascal, Algol 68 or Fortran, appointments will be on Grade 18 or Grade 1A according to qualifications and experience. Salary range £4402-£8765 p.a.

Applications (one copy only), including the names and addresses of three referees, should be sent to the Registrar and Secretary, The University, Sheffield S10 2TN. For further details and applications may be obtained the applications are active before 15 September 1980. General Ref: 25/4/80 (2563)

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Salary within range £5552-£8726 p.a. (scale 1980). Initial grade and salary determined according to qualifications and relevant experience. Closing date for applications 15th September, 1980.

Application forms may be obtained from The Registrar, The University, P.O. Box 147, Liverpool L69 3GB. Date Ref: RV/555/DV (2561)

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At current rates, salaries will increase 15% of gross income. Housing allowance, leave and medical benefits are provided.

Further particulars and application forms may be obtained from the Secretary, University of Hong Kong, 77 Gordon Road, London W1C 8PF, or from the Recruitment Section, Secretary's Office, University of Hong Kong, Hong Kong.

The closing date for applications is 15 October, 1980. (2550)

Thames Polytechnic

School of Mathematics, Statistics & Computing

Part-time Lecturers in Computing Science and Systems Analysis.

Applications are invited from graduates with good industrial, teaching, or research experience for part-time (day and/or evening) lecturing posts in computing science and systems analysis.

Enquiries to Dr. J. Hobbs, Head of School of Mathematics, Statistics and Computing, Thames Polytechnic, Watlington Street, London SE18 6PF. 01-854 2030 Ext. 223. (2575)

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The Service requires:

SYSTEMS PROGRAMMER

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Previous experience of VMS or a similar operating system is essential.

The salary will be at the University's Research Staff scale 18 (A4/1).

For further details and application forms, please contact: The Director of Computing, Oxford University Computing Service, 130, George Street, Oxford OX1 2JG. Tel: 01865 27521. (2572)

U-C-A

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London and Home Counties £6500-£8500 + Car
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SYSTEMS DESIGNERS	to £12,000	London or Berks	Real-time Communications experience or radar, navigation or command and control experience essential. Some overseas opportunities also available. Ref: 49/8
TECHNICAL PROGRAMMERS	to £14,000 + car	E. Midlands Berks, Herts or Surrey	CORAL, PASCAL, RTL2, GEO 4000 or ASSEMBLER experience in mini- or micro-computers essential. Several positions with large and small companies. End users or Software Houses. Ref: 49/9
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ANALYST/PROGRAMMER	to £10,000	London or Middx	Commercial high-flyers with 2/3 years' user experience required, for major bureau/software house. Top-class conditions for top-class people. Ref: 49/11
ANALYST/PROGRAMMER	£8,500	Romford	Medium-sized, highly prestigious and technically advanced installation. Programming experience in COBOL and ASSEMBLER preferable. Systems are on-line commercial, manufacturing and wholesale applications. Ref: 49/12
SENIOR PROGRAMMERS	£8,500 +	Combs	Three years' COBOL experience desirable. Excellent conditions and substantial relocation assistance available. Large installation. Ref: 49/13
SENIOR PROGRAMMER	£8,500	Herts	Programmer with CORAL and hardware experience essential. M6800 Assembler desirable. Real-time environment. Must be self-motivated and have good personality. Ref: 49/14
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THE SALES BIT

Qualifying for management

LAST week I wrote about the differences between the responsibilities and activities of a sales manager and those of a salesman.

This week I would like to make some recommendations to salesmen who aspire to entering sales management. However, in doing so, I must emphasise that I do not claim to be an expert on sales management techniques. I simply refer to my own experience and the world of selling as I find it.

Perhaps you will identify significant omissions in my coverage of the subject or have profoundly different opinions. If that is the case, I sincerely hope you will write and tell me so.

Compatible

A salesman's qualification for entering sales management is not a direct function of his track record of sales success. Being the company's top salesman is no more a qualifier than it is a disqualifier. The primary qualifications for advancement from territory sales into management are:

1. The opportunity has been earned by virtue of successfully completing the tasks that have been set to date.
2. The individual's human characteristics are compatible with the demands of the job. (This evaluation should involve both subjective and objective analysis as well as considering past behaviour.)

20 questions

- Having considered the initial qualification, the salesman needs to give close consideration to several facets of his personality and performance before committing himself to the pursuit of a management role.
1. Does he without exception always work in the best interests of his employer?
 2. Can he work without supervision?
 3. Does he respond constructively to being managed?
 4. Is he receptive to new ideas?

TRADER

Database for Eurocrats

This European Conference on Evaluation and Implementation of Database Systems is to be held in Brussels on September 28-29. The language of the conference will be English. The conference is expected to attract manufacturers of hardware and software, user groups and Eurocrats. Copies of the covered include data definition systems and database administration. It is organised by the Commission of the European Communities, and further information can be obtained from: Dalia Shannil, SDR, Assemblée, Avenue des Artistes, 16-1030 Brussels. Tel: (02) 947 3700.

Puzzle Answer

THE first throw must obviously produce one number for certain, and the second will produce a different number in five cases out of six (or, on average, in 5/6 throws). A third number has four chances out of six of appearing on the next throw (or, on average, in 4/6 more throws). Putting this another way, the number of throws needed, on average, will equal 1 + 6/5 + 5/4 (or the next number) = 834 (for the third number) and so on. The complete equation for all six numbers to appear, on average, is according to 1 + 6/5 + 5/4 + 4/3 + 3/2 + 6/1 = 834/60 = 14.7 throws.

IMMEDIATE CONTRACTS FOR PROGRAMMERS

IBM 370 Croydon £ Neg.

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CLASSIFIED COPY

All classified copy should reach our offices no later than 3.30 p.m. on the Monday preceding Thursday's publication.
Each late arrival is supplied with a full and complete copy.
Ring Ray Kelly for further details on 01-261 8815.

HERTFORDSHIRE PLANNING DEPARTMENT COMPUTER PROGRAMMER

Salary range £8795-£7881 (plus national pay award pending)

Vacancy for an experienced programmer to work as a member of a small team. Will participate in a range of applications and information systems concerned with planning subjects including population, employment, land availability, archaeology and transportation.

The mainframe computer is a NCR Criterion and experience in COBOL programming essential. The Department also uses at present two Commodore PET Micro Computers for specialist needs and knowledge/experience in this developing area and of BASIC language would be an advantage.

Job based at County Hall, Hertford, pleasant offices with good amenities for staff.

Commencing salary within Senior Officer 1/2 grade dependent on qualifications and experience. Good conditions of service including contributory pension fund, generous personal relocation and disturbance expenses payable up to £2,300 in approved circumstances.



Applications from the Chief Administrative Officer, County Planning Department, County Hall, Hertford SG13 8DN (or phone Hertford 84242, Ext 8808), quoting Post 88. Closing date for applications: 28 September, 1980. (2550)

SHIFT LEADER? SENIOR OPERATOR? become COMPUTER OPERATIONS SUPERVISOR

CI 28500

PLUS RELOCATION IN SOUTH WEST

2804/60/ED560; MT

7 9502 LOCAL & REMOTE COMMUNICATIONS

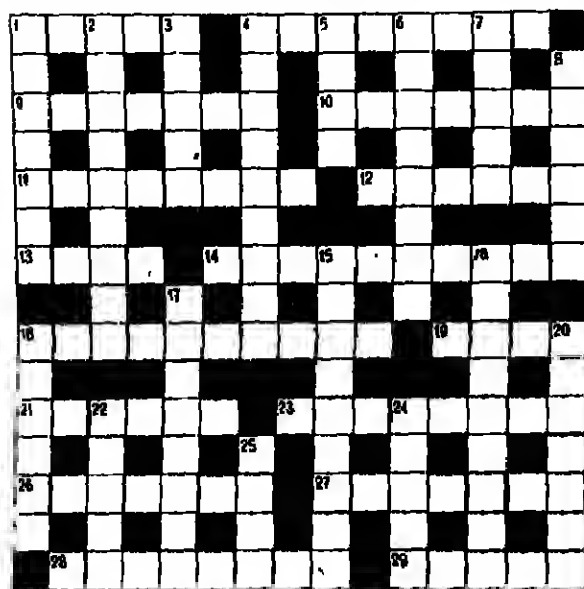
You will have knowledge of Span 2 or Georgia 2 operating systems and utilities. The post is based at the Headquarters of a manufacturing group in the electronics industry close to the coast of South Wales, consisting in a series of large buildings, production facilities in South Wales, England and Germany. Write in confidence for an application form to:

Personnel Manager
A.M. Electronics Components Ltd.
Aston Works, Oldham Road, Oldham, Greater Manchester, OL1 3AA
Tel: (0642) 740331

CW Prize Crossword No 8

Compiled by Alec Robins

A PRIZE OF £10 will be awarded for the first correct entry opened. The second and third correct solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Dorset House, Stamford Street, London SE1 8LL, by first post Friday, September 12. Please use a helpline to complete the crossword.



Name (Miss, Mrs, Ms, Mr)

Address

Telephone

I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed Date

- ACROSS**
- Clergyman fails to finish front page of leaf (5)
 - Excessively confident lot of deliveries sent down, we hear (8)
 - Relax on parade to tolerate a tantalising person (5, 2, 4)
 - Chest and twist Liberal in the Kent area (7)
 - Special homes for workers giving a religious sign (8)
 - Bird allowed around the hosiery (8)
 - An eagle will settle in a higher nest (4)
 - Just leaving with one that's beautiful (4, 2, 4)
 - Wife's prudent advice to one ordering a pint before driving (6, 4)
 - A couple you've to knock back around one (4)
 - Imitated about the doctor being gloomy (9)
 - Washed, spiced, free sprinkled with liquid (8)
 - To dribble is a knack exhibited by the French (7)
 - One vehicle brought back by an outer-space character (7)
 - Uncle's making humble tools of others dance (8)
 - Garment for lady doctor (5)
- DOWN**
- Blushing girl gets tucked in (7)
 - A varied recital on an old musical instrument (8)
 - Honour the ablutions rear? (6, 2, 3, 4) con 8
 - Sharlie's officers are disposed, getting blows all round (8)
 - Left a Middle-Eastern port with cargo aboard (5)
 - Main shopping area? There's little money about (6)
 - Realistic plan offering assistance to the poor, upset Pamela (6, 3)
 - Water, needed for a mother pig (5, 4)
 - Baker's looking odd in a hurry hat (8)
 - Surrounds, and defeats, capturing enemy's leader (6)
 - Dishonestly manhandling, without upstart, divisions of land (7)
 - This is a girl, or I'm a clown (5)
 - Animated, having been sicked (5)
 - To become engaged will make yours truly shut up! (4)

Rules and Conditions

- Each competitor may submit no more than one entry.
- The competition is open to all residents of the United Kingdom, who are employed by them or the nearest relatives of any week staff.
- The solution of each puzzle will be published in the next issue.
- Three weeks after the puzzle has been published.
- Winners will receive their prizes during the month following the completion of the staff of the Computer Weekly Ltd. any prizes employed by them or the nearest relatives of any week staff.
- The solution of each puzzle will be published in the next issue.

MICRO SOFTWARE
Kingston: To £10,000

Our clients are small businesses who are looking for a way to improve their business. We offer a range of software packages for sale or hire. If you have a sound technical background in hardware or software - get valuable applications experience, meet the customers and establish yourself in this new exciting market. Informal atmosphere, supportive management team, good training and promotion prospects. (Consultants ref. ER280).

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South Coast = CBS

PROGRAMMER

Programmer (1-2 yrs exp) - £12,000
Programmer (3-4 yrs exp) - £14,000
Programmer (5-6 yrs exp) - £16,000
Programmer (7-8 yrs exp) - £18,000
Programmer (9-10 yrs exp) - £20,000
Programmer (11-12 yrs exp) - £22,000
Programmer (13-14 yrs exp) - £24,000
Programmer (15-16 yrs exp) - £26,000
Programmer (17-18 yrs exp) - £28,000
Programmer (19-20 yrs exp) - £30,000

ANALYST

Analyst (1-2 yrs exp) - £12,000
Analyst (3-4 yrs exp) - £14,000
Analyst (5-6 yrs exp) - £16,000
Analyst (7-8 yrs exp) - £18,000
Analyst (9-10 yrs exp) - £20,000
Analyst (11-12 yrs exp) - £22,000
Analyst (13-14 yrs exp) - £24,000
Analyst (15-16 yrs exp) - £26,000
Analyst (17-18 yrs exp) - £28,000
Analyst (19-20 yrs exp) - £30,000

OPERATOR

Operator (1-2 yrs exp) - £12,000
Operator (3-4 yrs exp) - £14,000
Operator (5-6 yrs exp) - £16,000
Operator (7-8 yrs exp) - £18,000
Operator (9-10 yrs exp) - £20,000
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Operator (15-16 yrs exp) - £26,000
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Operator (19-20 yrs exp) - £30,000

CBS Appointments
1 WOOTTON GARDENS, BOURNEMOUTH BN2 2J5

SHIFT LEADER? SENIOR OPERATOR?

become

COMPUTER OPERATIONS SUPERVISOR

C. £6500

PLUS RELOCATION IN SOUTH WEST

- 2904/50, EDS60, MT
- 7502 LOCAL & REMOTE COMMUNICATIONS

You will have knowledge of Exec-2 or George-2 operating systems and utilities. The post is based at the Headquarters of a manufacturing group in the electronic industry close to the beauty of South Wales coast and in easy reach of large cities. There are production facilities in South Wales, England and Germany. Write or telephone for an application form to:



Personnel Manager
A.B. Executive Components Ltd.
Aberystwyth, Mid-Glamorgan CF46 4SF
Tel. (0443) 740331

Imaginative Solutions...

to your career development and our DP problem. We need a Programmer/Analyst for one of the country's largest System 10 configurations, as much as you need early promotion into management.

If you've had around 3 years' experience (not essentially System 10) and like the sound of a stimulating advertising agency environment, a West End location and a salary negotiable around £8,000, please contact Ron Watcott on 01-437 9281.

SYSTEMS ANALYST

required for Finance Company (L.C. 4) to maintain current systems and take a major role in the installation of a new system. If you have at least 6 years' experience in a similar position (preferably N.C.R.) or which at least 2 years' experience in Systems Analysis, we would like to hear from you.

We offer attractive salary, pension, holiday, and other benefits. For further details please telephone:

Mr. L. J. Davis
Personnel Officer
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datascene

Snr. Analyst/Programmer

Middlesex **C. £8000 + car**

Our clients, whose reputation has been established over several years in the manufacturing field, seek a motivated analyst/programmer with a good knowledge of RPG II, preferably on 34 machinery. The work is interesting and varied, covering distribution and accounting projects using installed packages. In addition to a good salary, the company offers a car, an annual bonus and subsidised restaurant.

REF. 4540

Programmers

Middlesex **C. £7000**

A company producing brand-name cosmetics seeks programmers (male or female) to complete their team. The company, a leader in its field and a household name, utilises an IBM 370 machine with on-line working. A minimum of one year's IBM COBOL experience is a pre-requisite, which ideally will have been gained on DOS/VS operating systems using CICS. In return the company offers a subsidised restaurant, 23 days' annual leave and discounted products.

REF. 4513

COBOL Programmer

Hampshire **to £7500**

Our client is a leading, successful manufacturer of agricultural equipment. Their requirement is for programmers of any length of experience. The machinery is ICL and the language COBOL, and candidates should have knowledge of both. Excellent opportunity to progress into team leadership. Company benefits include a subsidised restaurant, life assurance and pension schemes, and 23 days' annual leave.

REF. 4466

Programmers

Middlesex **C. £7500**

A very well-known household named company, whose reputation is envied, seeks programmers to complement their existing team. The company needs people with two years' experience of on-line working with COBOL. A useful addition would be a working knowledge of CICS, but this is not essential as training will be given. Benefits include a company bonus (c. 2 weeks' salary), 5 weeks' holidays and subsidised company products.

REF. 4406

COBOL Programmer

West London **£7000**

Expansion has meant that this well-known bureau to the West of London is looking for a COBOL programmer with around eighteen months' experience in a wide range of commercial applications. Univac hardware is used and a wide range of company benefits is offered, which includes a yearly bonus, LVs and substantial discount on goods offered by the parent company.

REF. R4508

FORTRAN Programmers

Central London **£8000**

We have two clients with current vacancies for experienced FORTRAN programmers. Both companies require at least two years' experience with an engineering or telecommunications background, one of the companies being involved in petrochemicals and the other a large software house and bureau. Both companies offer a comprehensive range of benefits and represent fine opportunities for suitably qualified applicants.

REF. R4521/8

Analyst/Programmer

S.W. London **£8000**

A manufacturing company in S.W. London requires a skilled and communicative person to supplement their existing team. The applicant should have three to four years' experience in a high level language such as BASIC or COBOL, and should be familiar with communication networks. DEC hardware is used and the company's range of benefits include four weeks' holiday, good insurance and pension schemes and a subsidised restaurant.

REF. R4514

BASIC + /BASIC + 2 Programmers

City **£7500**

We are in contact with three banks in the City who are seeking programmers with upwards of eighteen months' experience in BASIC + /BASIC + 2, or AIMS. Successful applicants can expect to be working in a batch and real-time environment on applications such as foreign exchange and eurobonds. Opportunities for career progression are excellent and the employment packages offered are without equal.

REF. R4520

The above vacancies are only a small selection from those currently on our files and we are always delighted to talk to experienced systems and programming staff wishing to further their careers.

Datascene International Limited
188-171 Kent Street
London W1R 7FE. Telex: 25951

01-439 7871
24 hour answerphone

TAKE THEIR WORD!!

A TESTIMONY TO THE RESPONSE

COMPUTER WEEKLY CAN BRING YOU

because you will be hitting more data processing personnel than ever before!

Computer Professional Recruitment Consultancy

RJP/CK
4th July, 1980

O. Kelly Esq.,
Computer Weekly,
Grove House,
Skerton Road,
Old Trafford,
MANCHESTER

Dear Owen,

I thought you may be interested to know that our advertisement in the Northern Recruitment Feature recently, was extremely successful. We received 25 high quality replies and are still processing these on behalf of our client.

Thank you for your help which, as usual, was "above and beyond the call of duty".

Yours sincerely,
Rob. J. Peeling
Managing Director

QUADRANT RECRUITMENT LIMITED

Specialists in computer staff selection

O. Kelly Esq.,
Computer Weekly,
Grove House,
Skerton Road,
Old Trafford,
MANCHESTER
M16 9UL

Dear Owen,

Recently we advertised on behalf of one of our clients in "COMPUTER WEEKLY" Northern Feature on the 26th June. Our clients are specialists in fast-flow industrial systems and have difficulty sourcing D.P. professionals in this particular field.

However, the response from "COMPUTER WEEKLY" was very good indeed and the calibre was excellent.

Our clients are delighted with the service and response you or the consultants.

QUADRANT has always been pleased with the service and response from "COMPUTER WEEKLY" and we recommend it as a very good D.P. professionals in the North.

Yours sincerely,

Irene Rogers
Managing Consultant

Quadrant Recruitment Limited
188-171 Kent Street
London W1R 7FE. Telex: 25951

DATA RESOURCES AGENCY LTD
HARDWATER, NORTH YORKSHIRE
TELEPHONE 051 45211

18 July 1980

Mr Owen Kelly
Computer Weekly
Grove House
Old Trafford
MANCHESTER
M16 9UL

Dear Owen,

As you know since Data Resources was established all our advertising has been carried by Computer Weekly, and we have always been pleased with the results.

I am sure you will be interested to know that the advertising we used in the recent Northern Recruitment Feature again followed the pattern and the level and quality of the response was first class.

I look forward to continuing this very successful relationship with you for some time to come.

Yours sincerely,

Cathy Platt
Senior Consultant

DML COMPUTERS LTD.

10th July, 1980.

Owen Kelly Esq.,
Computer Weekly,
Grove House,
Old Trafford,
MANCHESTER
M16 9UL

Dear Owen,

Just a note to say how pleased I am with the response to our advertisement in your issue of 26th June. The response was very good indeed and the calibre was excellent.

At a time when there is a great deal of movement of computer professionals from one company to another, it is particularly reassuring to know that your clients are specialists in fast-flow industrial systems and have difficulty sourcing D.P. professionals in this particular field.

This thorough and successful service for the which I am sure your clients are specialists in fast-flow industrial systems and have difficulty sourcing D.P. professionals in this particular field.

With kind regards to all, I am sure you will find this note of appreciation most welcome.

Yours sincerely,

Irene Rogers
Managing Consultant

Quadrant Recruitment Limited
188-171 Kent Street
London W1R 7FE. Telex: 25951

the newspaper computer people rely on